Journal of The Chemical Society

Dalton Transactions

Indexes

1974

Specialist Periodical Reports

The highly praised series of Chemical Society publications which provide systematic and comprehensive review coverage of the major areas of research in chemistry

Electronic Structure and Magnetism of Inorganic Compounds Vol. 3

Senior Reporter: Dr. P. DAY, *University of Oxford*

The third volume in this now established series covers literature published during 1972 and early 1973. It follows a very similar format to Volume 2 about which *Journal of Molecular Structure* said, "the style of all the contributors is clear and lucid with a useful amount of critical appraisal of the publications being reviewed. Praise must go to all those responsible for the printing and general organisation of this book which is virtually free from errors".

The chapter headings are as follows: Electronic Spectra; Natural and Magnetic Optical Activity; Magnetic Susceptibility Measurements; Photoelectron Spectroscopy.

Clothbound 445pp 8¾" × 5⅝" ISBN 0 85186 271 3 Price £14.00 (Chemical Society Members £10.50)

Photochemistry Vol. 5

Senior Reporter : Professor D. BRYCE-SMITH, *University of Reading*

The fifth volume of what is now the only annual review of photochemistry covers the literature on physical, inorganic, and organic and polymer photochemistry published between July 1972 and July 1973. The format is very similar to that adopted for previous volumes about which David S. Weiss in the *Journal of the American Chemical Society* said, "There is much to recommend and little to criticize. Very few papers seem to have escaped the attention of the reporters. The writing is uniformly good and the presentations clear. The series has become an established publication and anyone with a research interest in photochemistry, or a desire to remain abreast of developments in this rapidly expanding field, will find these volumes indispensable".

Clothbound 740pp 8¾" x 5⅝" ISBN 0 85186 045 1 Price £20.00 (Chemical Society Members £15.00)

The Chemical Society

These publications may be obtained through your local bookseller or by sending the appropriate remittance direct to: The Publications Sales Officer, The Chemical Society, Blackhorse Road, Letchworth, Herts SG6 1HN, England. (CS Members must write direct to the above address stating that they are claiming the privilege price).

INDEX OF AUTHORS, 1974

A

Abbas, S. Zaheer, and **Poller,** Robert C. Functionally substituted organotin compounds. Part IV. The use of protecting groups in the formation of 4-oxopentyltin compounds, 1769.

Adams, David M., and **Gardner,** Ian R. Single-crystal vibrational spectra of beryl and dioptase, 1502.

Single-crystal vibrational spectra of apatite, vanadinite, and mimetite, 1505.

Adams, David M., and **Payne,** S. John. Spectroscopy at very high pressures. Part II. Far-infrared spectra of some complex chlorides $M^{I}_{2}MCl_{6}$, 407.

Adams, David M., and **Squire,** Alan. Vibrational spectra of some monosubstituted-π-arene tricarbonylchromium complexes and of methyl benzoate, 558.

Adams, David M., and **Trumble,** William R. Single-crystal infrared study of dicarbonyl(acetylacetonato)rhodium(I), 690.

Adams, John M. Surface and intercalate chemistry of layered silicates. Part III. *X*-Ray investigation of tetrahydropyran and 1,4-dioxan intercalates of montmorillonite, 2286.

Adams, Robert W., **Chatt,** Joseph, **Hooper,** Norman E., and **Leigh,** G. Jeffery. Nitrosyl complexes of rhenium, 1075.

Addison, A. W., **Gillard,** R. D., **Sheridan,** P. S., and **Tipping,** L. R. H. Syntheses and properties of some oxalatorhodium(III) complexes, 709.

Addison, C. Clifford, **Davis,** Reginald, and **Logan,** Norman. The dinitratotetracarbonylrhenate(I) complex, 1073.

Derivatives of pentacarbonylnitratorhenium(I) with some nitrogen, phosphorus, and arsenic donor ligands, 2070.

Addison, C. Clifford, **Sheldon,** John C., and **Smith,** Barry C. Heat of mixing of dinitrogen tetroxide with organic liquids, 999.

Adnitt, Sheila E., **Barr,** David W., **Nicholls,** David, and **Seddon,** Kenneth R. Bromoaquo-complexes of titanium(III), 644.

Agambar, Christina A. (Mrs.), **Anstey,** Patrick, and **Orrell,** Keith G. Trifluoroacetate complexes of cobalt(II), nickel(II), and copper(II) with pyridine-type ligands. Part II. Preparation, vibrational and electronic spectral properties of cobalt(II) and nickel(II) complexes, 864.

Agnew, Neville H., **Collin,** Richard J., and **Larkworthy,** Leslie F. Complexes of 2- and 4-vinylpyridines with cobalt(II) and nickel(II) halides and pseudohalides, 272.

Agrawal, M. C. See **Mushran,** Sukhdeo Prasad, 1460.

Ahmed, Nurun Nahar (Miss). See **Nabi,** Syed Nurun, 1199.

Ainscough, Eric W., **Brodie,** Andrew M., and **Leng-Ward,** Graeme. Interaction of dimethyl(dimethylarsinothio)-arsine sulphide with Group 6 metal carbonyls, 2437.

Ainscough, Eric W., **James,** Tom A., **Robinson,** Stephen D., and **Wingfield,** Jonathan N. Transition-metal complexes containing phosphorus ligands. Part XIV. *ortho*-Metallation reactions involving some triaryl phosphite derivatives of osmium, 2384.

Akitt, J. W. Temperature dependence of proton chemical shifts in aqueous silver salts. The association shift of water, 175.

Alaluf, Eli, **Alford,** Kathleen J., **Bishop,** Edward O., and **Smith,** J. David. ^{1}H Nuclear magnetic resonance studies of exchange reactions between complexes $R_3M,M'R_3'$ and their components. Part II. Exchange between the complex trimethylphosphine–trimethylborane and an excess of trimethylborane and between trimethylphosphine–trimethylalane and an excess of hexamethyldialuminium, 669.

Albano, Vincenzo G., **Ciani,** Gianfranco, and **Chini,** Paolo. Crystal and molecular structure of the bis(tetramethylammonium) octa-μ_3-carbonyl-hexacarbonyl-*octahedro*-dinickeltetracobaltate(2−), 432.

Albelo, Gilbert. See **Wiger,** George, 2242.

Alcock, Nathaniel W., and (in part) **Jenkins,** H. Donald B. Crystal structure and lattice energy of thallium(I) fluoride: inert-pair distortions, 1907.

Alcock, Nathaniel W., and **Leviston,** Philip G. Crystal and molecular structure of *trans*-di-iodobis(tricyclohexylphosphine)platinum(II): an overcrowded molecule, 1834.

Alexander, Iain C. See **Barker,** Marten G., 2166.

Alexander, Lesley E., **Beattie,** Ian R., **Bukovszky,** Akos, **Jones,** Peter J., **Marsden,** Colin J., and **Van Schalkwyk,** Gysbert J. Vapour density and vibrational spectra of $MoOF_4$ and WOF_4. The structure of crystalline WOF_4, 81.

Alford, Kathleen J. See **Alaluf,** Eli, 669.

Al-Kathumi, Khaliel M., and **Kane-Maguire,** Leon A. P. Mechanisms of organometallic reactions. Part II. Kinetics of the reaction of acetonitrile with tricarbonyl-(cycloheptatriene) and -(arene) complexes of metals in Group VI, 428.

Allen, Christopher W., and **Toch,** Peter L. Aryl-substituted fluorophosphazenes. Part VII. Mass spectra of some aryl-substituted fluorocyclotriphosphazenes, 1685.

Allen, Geoffrey C., **Crofts,** John A., **Curtis,** Michael T., **Tucker,** Philip M., **Chadwick,** David, and **Hampson,** Peter J. *X*-Ray photoelectron spectroscopy of some uranium oxide phases, 1296.

Allen, Geoffrey C., **Curtis,** Michael T., **Hooper,** Alan J., and **Tucker,** Philip M. *X*-Ray photoelectron spectroscopy of iron–oxygen systems, 1525.

Allen, Geoffrey C., and **Wild,** Robert K. Auger spectroscopy of uranium, 493.

Al-Mallah, Khawla, **Collings,** Peter, and **Stedman,** Geoffrey. Electrophilic nitrosation at sulphur and nitrogen in thiourea, 2469.

Al-Mowali, Ali H., and **Porte,** Andrew L. Electron paramagnetic resonance study of dichlorodioxomanganese(VI), MnO_2Cl_2, 366.

Amjad, Zahid, and **McAuley,** Alexander. Metal-ion oxidations in solution. Part XI. Malic acid with cerium(IV) in perchlorate media, 2521.

Anagnostopoulos, Augustinos, **Nicholls,** David, and **Pettifer,** Michael E. Preparation of vanadium(V) oxide tribro-

mide, vanadium(IV) oxide dibromide, and their reactions with ammonia, 569.

Andersen, Richard A., and **Coates,** Geoffrey E. Reactions of beryllium alkyls with carbonyl and azomethine groups: addition, reduction, complex formation and *ortho*-metallation, 1171.

Alkoxyberyllium tetrahydroborates: t-butoxyberyllium pentane-2,4-dionate and complexes of t-butoxyberyllium oxide, 1440.

Alkali-metal alkylberyllium alkoxides, 1729.

Anderson, J. Stuart. See **Lincoln,** Frank J., 115.

Andersson, Lars-Olov, and **Mason,** Joan. Oxygen-17 nuclear magnetic resonance. Part I. Oxygen–nitrogen groupings, 202.

Andreocci, Marco V., **Bossa,** Mario, **Ramunni,** Girolamo, **Scazzocchio,** Marco, **Gattegno,** Daniela, and **Giuliani,** Anna M. Theoretical study of the most stable conformations of *NN'*-dimethylthiourea, *NNN'*-trimethylthiourea, and the methyl ester of dithiocarbazic acid, 41.

Annibale, Giuilano, **Cattalini,** Lucio, **El-Awady,** Abbas A., and **Natile,** Giovanni. Displacement of chelate ligands from planar four-co-ordinate complexes. Part I. Reactions of some gold(III) complexes of 2,2'-bipyridyl, 802.

Anstey, Patrick, and **Orrell,** Keith G. Trifluoroacetate complexes of cobalt(II), nickel(II), and copper(II) with pyridine-type ligands. Part III. Nuclear magnetic resonance studies of cobalt(II) complexes in solution. Part IV. Nuclear magnetic resonance studies of nickel(II) complexes and theoretical treatment of spin-density distributions in cobalt(II) and nickel(II) complexes, 870, 1711.

Anstey, Patrick. See **Agambar,** Christina A. (Mrs.), 864.

Apelblat, Alexander, and **Levin,** Reuben. Extraction of zinc and copper nitrates by methyl diphenyl phosphate, 1476.

Arduini, Anita, and **Storr,** Alan. Pyrazolyl derivatives of aluminium and gallium, 503.

Aris, Keith R., **Brown,** John M., and **Taylor,** Keith A. Ligand lability in carbonyl(η-cyclopentadienyl)triphenylphosphineiron derivatives, 2222.

Ashcroft, Stanley J., **Maddock,** Andrea, and **Beech,** Graham. Thermochemistry of platinum–benzoyl and platinum–dibenzylideneacetone complexes, 462.

Ashley-Smith, John, **Douek,** Zacci, **Johnson,** Brian F. G., and **Lewis,** Jack. Olefin rotation in platinum(II) olefin complexes. Part IV. Energies of activities for rotation of substituted olefins in square-planar $PtCl_2(L)$(olefin) and PtCl(acac)(olefin) complexes, 128.

Ašperger, Smiljko. See **Bradić,** Zdravko, 344, and **Reynolds,** Warren L., 716, 719.

Attanasio, Donato, **Collamati,** Ines, and **Ercolani,** Claudio. Ligand arrangement and tetragonal distortion in CuO_4N_2 chromophores studied by electronic and electron spin resonance spectroscopy, 1319.

Ligand arrangement in tetragonally distorted CuO_4N and CuO_4N_2 chromophores formed from copper(II) α-nitroketonates and sterically hindered *N*-bases, 2442.

Atwood, J. L., and **Smith,** K. D. Crystal and molecular structure of trichlorotris(tetrahydrofuran)scandium(III), 921.

B

Badachhape, Rammachandra B. See **Lagow,** Richard J., 1268.

Bagnall, Kenneth W., and **Wakerley,** Malcolm W. Phosphine oxide complexes of thorium(IV), uranium(IV), neptunium(IV), and dioxouranium(VI) nitrates, 889.

Bailey, Neil A., **McKenzie,** E. Donald, and **Worthington,** James M. Crystal and molecular structure of 1,3-bis(2-iminobenzylideneimino)propanenickel(II), 1363.

Baird, Michael C. See **Burns,** Rob J., 415.

Baker, Roy W., and **Jeffery,** James W. Crystal and molecular structure of hexakisantipyrineyttrium triiodide, 229.

Ball, Peter W., and **Blake,** Anthony B. Magnetic properties of polynuclear complexes. Part II. Superexchange in some binuclear cobalt(II) complexes, 852.

Bancroft, G. Michael, **Das,** V. G. Kumar, and (in part) **Butler,** K. David. Mössbauer spectra of six-co-ordinate organotin(IV) compounds with oxygen donors: structure, bonding, and correlation with antimony(V) e^2qQ values, 2355.

Bancroft, G. Michael. See **Libbey,** Edward T., 87.

Baracco, Livio. See **Degetto,** Sandro, 1933.

Barbucci, Rolando, **Fabbrizzi,** Luigi, and **Paoletti,** Piero. Thermodynamic behaviour of complexes with 5,6-membered condensed chelate rings: 1,4,8-triazaoctane, 2403.

Barbucci, Rolando, and **Vacca,** Alberto. Co-ordinating properties in aqueous solution of the oxygen atom in bis-2-aminoethyl ether, 2363.

Barker, Geoffrey K., **Drake,** John E., and **Hemmings,** Raymond T. Methylseleno-derivatives of Group IV. Part II. Hydrides, 450.

Barker, Marten G., and **Alexander,** Iain C. Reactions of lithium nitride with cerium, thorium, and hafnium: formation of Li_3CeN_3, Ce_2N_2O, Li_2ThN_2, and Li_2HfN_2, 2166.

Barker, Marten G., **Hooper,** Alan J., and **Wood,** David J. Reactions of liquid sodium with transition-metal oxides. Part VII. The oxides of niobium and tantalum, 55

Barnes, David S. See **Virmani,** Yogish, 399.

Barr, David W. See **Adnitt,** Sheila E., 644.

Barr, Roger M., and **Goldstein,** Michael. Far-infrared and Raman spectra of crystalline ammonium and alkali-metal trichloromercurate(II) salts and some related compounds, 1180.

Barrer, Richard M., and **Beaumont,** Réjane (Mme.). Characterisation of the synthetic zeolite (Na, Me_4N)-V, 405.

Barrer, Richard M., **Beaumont,** Réjane (Mme.), and **Collela,** Carmine. Chemistry of soil minerals. Part XIV. Action of some basic solutions on metakaolinite and kaolinite, 934.

Barrer, Richard M., and **Freund,** Edouard F. Hydrothermal chemistry of silicates. Part XVI. Replacement of aluminium by boron during zeolite growth. Part XVII. Reactions in the system $BaO–B_2O_3–SiO_2–H_2O$. Part XVIII. Reactions in the system $CaO–B_2O_3–SiO_2–H_2O$. Part XIX. A partial study of the system $CaO–B_2O_3–GeO_2–H_2O$, 1049, 2054, 2060, 2123.

Barrer, Richard M., and **Liquornik,** Martin. Hydrothermal chemistry of silicates. Part XX. The question of phosphorus substitution for silicon during zeolite synthesis, 2126.

Barry, C. David, **Dobson,** Christopher M., **Williams,** Robert J. P., and **Xavier,** Antonio V. Lanthanoid(III) cations as nuclear magnetic resonance conformational probes: studies on cytidine 5'-monophosphate at pH 2, 1765.

Barteri, Mario, **Branca,** Mario, and **Pispisa,** Basilio. Circular dichroism studies on the interactions between tris(L-

alaninato)cobalt(III) complexes and basic polyelectrolytes in solution, 543.

Basato, Marino, **Fawcett,** J. Paul, **Fieldhouse,** Stephen A., and **Poë,** Anthony J. Reaction mechanisms of metal–metal bonded carbonyls. Part VII. Reaction of alkynes with μ-carbonyl-μ-diphenylgermanio-bis(tricarbonylcobalt)(*Co–Co*), 1856.

Basato, Marino, **Fawcett,** J. Paul, and **Poë,** Anthony. Reaction mechanisms of metal–metal bonded carbonyls. Part VI. Reactions of μ-carbonyl-μ-diphenylgermanediyl-bis(tricarbonylcobalt) with carbon monoxide, triphenylphosphine, and tri-n-butylphosphine, 1350.

Basato, Marino, and **Poë,** Anthony. Reaction mechanisms of metal–metal bonded carbonyls. Part IV. The substitution reaction of μ-diphenylacetylene-bis(tetracarbonylcobalt) with tri-n-butylphosphine. Part V. A kinetic study of the reaction of diphenylacetylene with hexacarbonylbis(tri-n-butylphosphine)dicobalt, 456, 607.

Bassett, Peter J., **Higginson,** Brian R., **Lloyd,** D. Robert, **Lynaugh,** Norman, and **Roberts,** Peter J. Helium-I photoelectron spectra of tetrakis(trifluorophosphine)-nickel(0), -palladium(0), and -platinum(0), 2316.

Basson, William D., and **Du Preez,** A. Louis. Reactions of thiazolidine-2-thiones with copper(II), 1708.

Bates, John C., **Davies,** Keith M., and **Stedman,** Geoffrey. Redox equilibrium between ferricyanide, ferrocyanide, and nitric and nitrous acids, 246.

Reaction between hexacyanoferrate(III) ion and nitric and nitrous acids. Part II. Nature of the intermediate, 2182.

Baxter, Allan C., and **Williams,** David R. Thermodynamic considerations in co-ordination. Part XV. Potentiometric and calorimetric study of the complexes formed between protons, first transition series metal ions, and asparaginate and glutaminate anions, 1117.

Bear, Cedric A., **Waters,** Joyce M., and **Waters,** T. Neil. Crystal and molecular structure of the tetranuclear copper complex di-μ-chloro-bis{chloro[*NN'*-ethylenebis(salicylideneiminato)copper(II)]copper(II)}, 1059.

Beattie, Ian R., **Bizri,** Omar, **Blayden,** H. Edwin, **Brumbach,** Stephen B., **Bukovszky,** Akos, **Gilson,** T. R., **Moss,** Ronald, and **Phillips,** Brian A. Mass spectra and vibrational spectra of ' $TeCl_2Br_2$ '. The vibrational spectrum of tellurium tetrachloride, 1747.

Beattie, Ian R. See **Alexander,** Lesley E., 81.

Beaumont, Réjane (Mme). See **Barrer,** Richard M., 405, 934.

Beck, Wolfgang, **Rieber,** Wolfram, **Cenini,** Sergio, **Porta,** Francesca, and **La Monica,** Girolamo. Reactions of toluene-*p*-sulphonyl azide and isocyanate with low valent transition-metal complexes, 298.

Beckett, Ronald, and **Hoskins,** Bernard F. Square-planar complexes of pentane-2,4-dithione (dithioacetylacetone): crystal structures of the cobalt(II) and nickel(II) derivatives, 622.

Bedford, Wendy M., and **Rouschias,** George. Oxidative additions to stable five-co-ordinate d^8 complexes: bis[1,2-bis(diphenylphosphino)ethane]- and bis[1,2-bis(diphenylphosphino)ethylene]-(isocyanide)iridium(I) complexes, 2531.

Beech, Graham. See **Ashcroft,** Stanley J., 462.

Begley, Michael J., **Millington,** Douglas, **King,** Trevor J., and **Sowerby,** D. Bryan. Crystal structure of 1, *trans*-3, *cis*-5, *trans*-7-tetrakis(dimethylamino)-1,3,5,7-tetrafluorotetraphosphonitrile, 1162.

Begley, Michael J., **Sowerby,** D. Bryan, and **Tillott,** R. Jonathan. Crystal structures of octaphenylcyclotetraphosphazene and octaphenylcyclotetra-arsazene, 2527.

Belford, Rosemary C. E., **Fenton,** David E., and **Truter,** Mary R. Reactions of bis-(1,1,1,5,5,5-hexafluoropentane-2,4-dionato)copper(II) with pyrazine and the crystal structures of the 1 : 1 and 2 : 1 complexes, 17.

Bellon, Pier L., **Caglio,** Giorgio, **Manassero,** Mario, and **Sansoni,** Mirella. *X*-Ray crystal and molecular structure of dichloro(4-methoxyphenyldi-imide-C^2,N')bis(triphenylphosphine)iridium–chloroform (1/1), 897.

Benfield, Frank W. S., and **Green,** Malcolm L. H. Stoicheiometric, homogeneous oxidation of amines to aldehydes or ketones using bis-π-cyclopentadienyl molybdenum derivatives: ketimine molybdenum complexes, 1244.

Alkyl, alkynyl, and olefin complexes of bis(π-cyclopentadienyl)-molybdenum or -tungsten: a reversible metal-to-ring transfer of an ethyl group, 1324.

Bennett, Martin A., and **Smith,** Anthony K. Arene ruthenium(II) complexes formed by dehydrogenation of cyclohexadienes with ruthenium(III) trichloride, 233.

Berry, John A., **Oates,** Gerald, and **Winfield,** John M. Reactions of chlorine trifluoride with pentafluoroiodobenzene and related compounds. Preparation of pentafluorophenyliodine(V) tetrafluoride, 509.

Bevan, William I., and **Haszeldine,** Robert N. Carbene chemistry. Part IV. Carbene intermediates in pyrolyses of trifluoro(polyfluoroethyl)silanes, trichloro(polyfluoroethyl)silanes and trichloro(trichloromethyl)silane, 2509.

Bevan, William I., **Haszeldine,** Robert N., **Middleton,** John, and **Tipping,** Anthony E. Polyfluoroalkyl compounds of silicon. Part XII. Reactions of trichlorosilane with 2-chloro- and 2-bromo-1,1-difluoroethylene, 2305.

Bhaduri, Sumit. See **Field,** John S., 74.

Bielli, E., **Gidney,** P. M., **Gillard,** R. D., and **Heaton,** B. T. Spectroscopic studies on some compounds (including dimorphic solids) of platinum(II) with 2,2'-bipyridyl and its analogues, 2133.

Bingham, Denis, **Hudson,** Barry, **Webster,** David E., and **Wells,** Peter B. Homogeneous catalysis of olefin isomerisation. Part VI. Pent-1-ene isomerisation catalysed by solutions of dodecacarbonyltri-iron(0) and of bis(benzonitrile)dichloropalladium(II) in benzene, 1521.

Bingham, Denis, **Webster,** David E., and **Wells,** Peter B. Homogeneous catalysis of olefin isomerisation. Part IV. The isomerisation of pent-1-ene catalysed by solutions of $IrH(CO)(PPh_3)_3$, $IrHCl_2(PEt_2Ph)_3$, $IrCl(CO)(PPh_3)_2$, $IrCl(O_2)(CO)(PPh_3)_2$, and of $PtHSnCl_3(PPh_3)_2$. Part V. Pent-1-ene isomerisation catalysed by solutions of $RuHCl(PPh_3)_3$ and of $RuHCl(CO)(PPh_3)_3$; variation of the isomeric composition of pent-2-ene and its attribution to steric factors, 1514, 1519.

Birchall, Thomas, **Chan,** Peter K. H., and **Pereira,** Angelo R. Solvolysis of methyltin chlorides by strong-acid solvents, 2157.

Biruš, Mladen. See **Reynolds,** Warren L., 716.

Biscarini, Paulo, **Fusina,** Luciano, and **Nivellini,** Giandimenico. Organothiometallic compounds. Part I. Infrared and Raman spectra of some di(alkylthio)mercury(II) compounds, 2140.

Biscarini, P., **Fusina,** L., **Nivellini,** G. D., **Mangia,** A., and **Pelizzi,** G. Crystal structure and spectroscopic properties of mercury(II) halide complexes. Part II. The dimethyl sulphoxide–mercury(II) chloride (2/3) adduct, 1846.

Bishop, Edward O. See **Alaluf,** Eli, 669.

Bizri, Omar. See **Beattie,** Ian R., 1747.

Black, Aline M., and **Flint,** Colin D. Excitation and luminescence spectra of dipotassium hexafluoromanganate(IV), **977.**

Blackborow, J. Richard, **Hill,** M. N. Stuart, and **Kumar,** Subod. Exchange reactions of adducts of nitrogen donors with boron halides, **411.**

Blackmore, Timothy, **Bruce,** Michael I., and **Stone,** F. Gordon A. Cyclopentadienylruthenium phosphine complexes. Part II. Reactions between hydridobis(triphenylphosphine)(π-cyclopentadienyl)ruthenium and acetylenes, **106.**

Blake, Antony B., and **Fraser,** Louis R. Crystal structure and magnetic properties of a binuclear triketonate complex of five-co-ordinate copper: bis[heptanetrionato(2−)]-bispyridinedicopper(II), **2554.**

Blake, Anthony B. See **Ball,** Peter W., **852.**

Blandamer, Michael J., **Burgess,** John, and **Morris,** Stephen H. Effects of added salts on the kinetics of aquation of tris(5-nitro-1,10-phenanthroline)iron(II), **1717.**

Blandamer, Michael J., **Burgess,** John, and **Peacock,** Raymond D. Solubility of sodium hexahydroxoantimonate in water and in mixed aqueous solvents, **1084.**

Blaydon, H. Edwin. See **Beattie,** Ian R., **1747.**

Bombieri, Gabriella. See **Degetto,** Sandro, **1933.**

Bonamico, Mario, **Dessy,** Giulia, **Fares,** Vincenzo, and **Scaramuzza,** Lucio. Structural studies of eight-co-ordinate metal complexes. Part I. Crystal and molecular structures of tetrakis(phenyldithioacetato)vanadium(IV) and tetrakis(dithiobenzoato)vanadium(IV), **1258.**

Bond, A. M., **Casey,** A. T., and **Thackeray,** J. R. Polarographic behaviour in acetone of complexes formed between the bis(π-cyclopentadienyl)vanadium(IV) group and some 1,1-dithio-chelates, **773.**

Bor, György, and **Sbrignadello,** Gino. Infrared spectroscopic studies on metal carbonyl compounds. Part XVII. A comparative study of the vibrational spectrum of ditechnetium decacarbonyl and of the decacarbonyls of manganese and rhenium in the C–O stretching region, **440.**

Bossa, Mario. See **Andreocci,** Marco V., **41.**

Bosworth, Yvonne M., and **Clark,** Robin J. H. Intensity studies on the Raman-active fundamentals of hexahalogeno-anions of second- and third-row transition and non-transition metals. The calculation of parallel and perpendicular bond polarisability derivatives, **1749.**

Bottomley, Frank. Reinvestigation of the crystal and molecular structures of penta-amminenitrosylruthenium trichloride hydrate and *trans*-tetra-amminehydroxonitrosylruthenium dichloride, **1600.**

Bottomley, Frank, **Clarkson,** Steven G., and (in part) **Tong,** Shiu-Bor. Electrophilic behaviour of the co-ordinated nitrosyl cation: reactions of pentahalogenonitrosyliridate(1−), **2344.**

Bowden, Frank L., and **Ferguson,** David. Redox reactions in the formation of titanium complexes with aromatic Schiff's bases, **460.**

Bowen, David H., **Green,** Michael, **Grove,** David M., **Moss,** John R., and **Stone,** F. Gordon A. Chemistry of the metal carbonyls. Part LXIX. Synthesis and reactions of complexes of manganese containing the substituted and unsubstituted 2,5-dioxacyclopentylidene ligand, **1189.**

Bowen, Richard E., and **Gosling,** Keith. Separation and identification of some stereoisomers of cyclodi-μ-t-butylamido-di(ethylbromoaluminium). Spectral studies of their interconversion in solution and the similar behaviour of some related compounds, **964.**

Bowen, Richard E. See **Gosling,** Keith, **1961.**

Boyd, Peter D. W., **Gerloch,** Malcolm, and **Sheldrick,** George M. Crystal structure of tris-μ-[2,5-di(2-pyridyl)-3,4-diazahexa-2,4-diene]dicobalt(II) di[aquotrichlorozincate(II)] tetrachlorozincate(II) tetrahydrate: a helical binuclear cobalt(II) cation, **1097.**

Bradić, Zdravko, **Pavlović,** Dušanka, **Murati,** Ivo, and **Ašperger,** Smiljko. Kinetics and mechanism of replacement of sulphite in the pentacyano(sulphito)ferrate(II) ion by cyanide ion, **344.**

Bradley, Geraldine F., and **Stobart,** Stephen R. Reaction of octacarbonyldicobalt with organo-silanes, -germanes, and -stannanes: formation, properties, and vibrational spectra of trimethylgermyltetracarbonylcobalt and related complexes, **264.**

Branca, Mario. See **Barteri,** Mario, **543.**

Bratt, Peter J., **Brown,** Michael P., and **Seddon,** Kenneth R. Exchange reactions of trimethylamine–iodoborane **(1/1)** with halide and pseudohalide anions, **2161.**

Brauer, Georg. See **Kaiser,** Joachim, **1490.**

Bresciani, Nevenka, **Calligaris,** Mario, **Nardin,** Giorgio, and **Randaccio,** Lucio. Steric effects in the reversible oxygenation of cobalt–Schiff-base complexes. Part II. Crystal and molecular structure of [*NN'*-butylenebis(salicylideneiminato)]pyridinecobalt(II). Part III. Crystal and molecular structure of the *meso*-form of *NN'*-cyclohexylenebis(salicylideneiminato)cobalt(II), **498, 1606.**

Bright, David, and **Mills,** Owen S. Carbon compounds of the transition metals. Part XXVIII. Crystal structure of bromotriscarbonyl(phenyl isocyanide)manganese(I), **219.**

Brint, Paul, and **McCaffery,** Anthony J. Electronic spectra and magnetic circular dichroism of the uranyl ion. Part II. The effect of reduced symmetry on the spectra, **51.**

Britnell, David, **Fowles,** Gerald W. A., and **Rice,** David A. Preparation of halide sulphides and halide selenides of molybdenum and tungsten, **2191.**

Brničević, Nevenka, and **Djordjević,** Cirila. Co-ordination complexes of niobium and tantalum. Part XV. Sulphoxide complexes of oxobis(oxalato)niobates(V), **165.**

Brodie, Andrew M. See **Ainscough,** Eric W., **2437.**

Brookes, P. Rupert, and **Shaw,** Bernard L. Mercury(II) halide adducts of transition-metal complexes. Part II. Tertiary-phosphine and -arsine complexes of rhodium(III) and iridium(III), **1702.**

Brotherton, Peter D., **Epstein,** Joel M., **White,** Allan H., and **Willis,** Anthony C. Crystal structure of di-μ-chloro-dichlorobis(methyl pyrrolidine-1-carbodithioate)dimercury(II), **2341.**

Brotherton, Peter D., **Wege,** Dieter, **White,** Allan H., and **Maslen,** Edward N. Crystal and molecular structure of tetracarbonyl(7,7-dimethoxynorborn-2-ene)chromium(0), **1876.**

Brown, David. See **Weigel,** Fritz, **1473.**

Brown, John M. See **Aris,** Keith R., **2222.**

Brown, Michael P., **Puddephatt,** Richard J., and **Upton,** Clive E. E. Mechanism of reductive elimination of ethane from some halogenotrimethylbis(tertiary phosphine)platinum(IV) complexes, **2457.**

Brown, Michael P., **Puddephatt,** Richard J., **Upton,** Clive E. E., and (in part) **Lavington,** Steven W. Thermal decomposition of some acyl(dialkyl)-, dialkyl(allyl)-, dialkyl(benzyl)-, and trialkyl-halogenobis(dimethylphenylphosphine)platinum(IV) complexes, **1613.**

Brown, Michael P. See **Bratt,** Peter J., 2161.
Brown, Stanley B. See **Jones,** Peter, 911.
Browning, I. G., **Gillard,** R. D., **Lyons,** J. R., and **Mitchell,** P. R. Reactions of complex compounds of cobalt. Part IX. Ammonia exchange during the base hydrolysis of chloropenta-amminecobalt(III) ion in concentrated aqueous ammonia, 373.
Browning, Jane, **Green,** Michael, **Spencer,** John L., and **Stone,** F. Gordon A. Reactions of low-valent metal complexes with fluorocarbons. Part XXIX. Zerovalent nickel and platinum complexes with hexafluorobut-2-yne and hexakis(trifluoromethyl)benzene, 97.
Bruce, Michael I. See **Blackmore,** Timothy, 106, and **Salah,** Omar M. Abu, 2302.
Brückner, Sergio, and **Randaccio,** Lucio. Structural study of octahedral cobalt(III) complexes. Crystal and molecular structure of *trans*-chlorobis(dimethylglyoximato)(triphenylphosphine)cobalt(III) and *trans*-chlorobis(dimethylglyoximato)(ammine)cobalt(III) monohydrate, 1017.
Brumbach, Stephen B. See **Beattie,** Ian R., 1747.
Bryan, Robert F., and **Schmidt,** jun., William C. Metal–metal bonding in co-ordination complexes. Part XII. Crystal structure of tetracarbonyl(triphenylstibine)iron, 2337.
Buck, Dorothy M. W., and **Moore,** Peter. Rates of formation of nickel(II) chelate complexes with bidentate substituted-pyridine ligands in dimethyl sulphoxide solution, 2082.
Bukovszky, Akos. See **Alexander,** Lesley E., 81, and **Beattie,** Ian R., 1747.
Bula, Michael J., **Hartman,** J. Stephen, and **Raman,** Chirakal V. Mixed boron trihalide adducts. A nuclear magnetic resonance study of donor site and halogen redistribution in boron trihalide adducts of methyl acetate and its sulphur analogues, 725.
Bulkowski, Peter B. See **Burns,** Rob J., 415.
Bullen, Graham J., and **Dann,** Peter E. Molecular structures of non-geminally substituted phosphazenes. Part V. Crystal structure of 2,*trans*-6-dichloro-2,4,4,6,8,8-hexakis(dimethylamino)cyclotetraphosphazatetraene, 705.
Bullen, Graham J. See **Burr,** Alan H., 1659.
Bulloch, Gordon, and **Keat,** Rodney. Cyclisation of bis-(dichlorophosphino)-, bis(dichlorophosphinoyl)-, and bis-(dichlorophosphinothioyl)-amines by primary amines, 2010.
Bulloch, Gordon, **Keat,** Rodney, and **Tennent,** Norman H. Dimethylaminolysis of dichlorophosphinothioyl compounds, 2329.
Bullock, Joseph I., **Hobson,** Richard J., and **Povey,** David C. Substituted phenols as ligands. Part IV. Six- and four-co-ordinate copper(II) complexes with nitrogen bases. *X*-Ray crystal structure analysis of bis-(2-methoxy-4-nitrophenolato)bis(pyridine)copper(II), 2037.
Burgess, John, **Friec,** Boris, and **Holloway,** John H. Enthalpies of formation of 1 : 1, 1 : 2, and 2 : 1 adducts of xenon difluoride with antimony, niobium, and tantalum pentafluorides, 1740.
Burgess, John, **Haigh,** Ian, and **Peacock,** Raymond D. Enthalpies of formation of the pentafluorides and oxide tetrafluorides of molybdenum and tungsten, 1062.
Burgess, John, **Haigh,** Ian, **Peacock,** Raymond D., and **Taylor,** Paul. Thermochemistry of alkali metal hexafluoromolybdates(V) and hexafluorotungstates(V), 1064.
Burgess, John, and **Twigg,** Martyn V. Kinetics of aquation of bis(2,2′;6′,2″-terpyridyl)iron(II) in acidic media and its reaction with cyanide ion, 2032.
Burgess, John. See **Blandamer,** Michael J., 1084, 1717, and **Daniel,** Harry T., 2219.
Burkin, A. Richard, **Rice,** Nevill M., and **Rogers,** M. June. Liquid–liquid extraction of thiocyanate and thiocyanatoferrate(III) complexes with tris(3,5,5-trimethylhexyl)-amine, 213.
Burlitch, James M., and **Theyson,** Thomas W. Studies in the chemistry of bonds between metals: transition-metal carbonyl derivatives of thallium, 828.
Burnett, Michael G., **Morrison,** Robert J., and **Strugnell,** Christopher J. Homogeneous hydrogenation of buta-1,3-diene and ethylene catalysed by carbonylhydridotris(triphenylphosphine)iridium(I) and by carbonyltrihydridobis-(triphenylphosphine)iridium(III), 1663.
Burns, Rob J., **Bulkowski,** Peter B., **Stevens,** Shirley C. V., and **Baird,** Michael C. Evidence for restricted rotation in hydrogen-1 and fluorine-19 nuclear magnetic resonance spectra of cyclopentadienylperfluoroalkylcobalt complexes, 415.
Burr, Alan H., **Carlisle,** Charles H., and **Bullen,** Graham J. Molecular structures of non-geminally substituted phosphazenes. Part VI. Crystal structure of 2,*cis*-4,*trans*-6,*trans*-8-tetrachloro-2,4,6,8-tetraphenylcyclotetraphosphazatetraene, 1659.
Burroughs, Peter, **Hamnett,** Andrew, and **Orchard,** Anthony F. A study of the mixed-valency compound Cs_2SbCl_6 by *X*-ray photoelectron spectroscopy, 565.
Buser, Hans Jorg, **Ron,** Gideon, **Ludi,** Andrew, and **Engel,** Peter. Crystal structure of cadmium hexacyanopalladate(IV), 2473.
Butler, K. David. See **Bancroft,** G. Michael, 2355.
Buttery, Howard J., **Kettle,** Sidney F. A., and **Paul,** Iain. Solid-state studies. Part VI. A single-crystal Raman study of the vibrations of the tricarbonylchromium unit in benzenetricarbonylchromium and tricarbonyl(1,3-dimethylbenzene)chromium, 2293.

C

Caglio, Giorgio. See **Bellon,** Pier L., 897.
Cairns, Maxwell A., and **Nixon,** John F. (η-Allyl)tris(trifluorophosphine)cobalt(I) complexes, 2001.
Calderazzo, Fausto, **Pasquali,** Marco, and **Salvatori,** Tito. Mixed complexes of *N*,*N*′-ethylenebis(salicylideneiminato)uranium(IV), 1102.
Calhoun, Harry P., and **Trotter,** James. Crystal and molecular structure of nonamethylcyclotetraphosphonitrilium pentacarbonyliodochromate(0), 377.
Crystal and molecular structure of 1,5-dihydrodecamethylcyclopentaphosphonitrilium tetrachlorocuprate(II) monohydrate, 382.
Crystal and molecular structure of tetraphenylcyclotetraphosphine monosulphide, 386.
Calligaris, Mario. Crystal and molecular structure of dimethyl[3,3′-(trimethylenedinitrilo)bis(butan-2-one oximato)]cobalt(III), 1628.
Calligaris, Mario, **Nardin,** Giorgio, and **Randaccio,** Lucio. Crystal and molecular structure of the high-spin five-co-ordinate complex aquo-*NN*′-ethylenebis-(3-methoxysalicylideneiminato)cobalt(II), 1903.
Calligaris, Mario. See **Bresciani,** Nevenka, 498, 1606.
Campbell, Ian L. C., and **Stephens,** Frederick S. Crystal and

molecular structure of di-μ-carbonyl-carbonyl[carbonyl-(2,3-dimethylbuta-1,3-diene)cobalt](π-methylcyclopentadienyl)iron, 923.

Cannas, Mario, **Carta,** Gino, **Cristini,** Alessandro, and **Marongiu,** Giaime. Crystal structures of thiocyanate polyamine copper(II) complexes. Part VI. Di-(3-aminopropyl)-aminebis(isothiocyanato)copper(II), 1278.

Cannas, Mario, **Carta,** Gino, and **Marongiu,** Giaime. Crystal structures of thiocyanate polyamine copper(II) complexes. Part II. Bis-(1,3-diaminopropane)isothiocyanatocopper-(II) perchlorate. Part III. [Di-(2-aminoethyl)amine]diisothiocyanatocopper(II). Part IV. Di-μ-thiocyanatobis[di-(2-aminoethyl)amine]dicopper(II) diperchlorate, 550, 553, 556.

Capasso, Sante, **Giordano,** Federico, **Mattia,** Carlo, **Mazzarella,** Lelio, and **Ripamonti,** Alberto. Stereochemistry of model compounds for pyridoxal-catalysed reactions. Crystal structures of the hydrated complexes bis(pyridoxylidene-DL-valinato)nickel(II) and bis(pyridoxylidene-L-valinato)zinc(II), 2228.

Cape, J. Neil, **Cook,** Diana H., and **Williams,** David R. Thermodynamic considerations in co-ordination. Part XIX. *In vitro* studies of complexing equilibria involved in oral iron(II) therapy, 1849.

Cardaci, Giuseppe. Kinetic study of ligand-substitution reactions of (1—3-η-allyl)dicarbonylnitrosyliron complexes: factors affecting the stability of σ- and η-allyl complexes, 2452.

Cardaci, Giuseppe, and **Foffani,** Antonio. (1—3-η-Allyl)-dicarbonylnitrosyliron complexes and their σ-, 1-σ,2—3-η-, and 1—3-η-allyl and but-3-enoyl derivatives with phosphine ligands, 1808.

Carlisle, Charles H. See **Burr,** Alan H., 1659.

Carroll, W. Eamon, **Deane,** Michael E., and **Lalor,** Fergus J. Transition-metal derivatives of arenediazonium ions. Part VII. Fluorine-19 nuclear magnetic resonance and nitrogen-15 infrared labelling studies on some benzene-, *meta*-fluorobenzene-, and *para*-fluorobenzene-diazo-complexes of iron, molybdenum, platinum, and tungsten, 1837.

Carroll, W. Eamon, **Deeney,** F. Anthony, and **Lalor,** Fergus J. Transition-metal derivatives of arenediazonium ions. Part VI. Ligand-substitution reactions of some iron(I) arenediazo and nitrosyl cations, 1430.

Carta, Gino. See **Cannas,** Mario, 550, 553, 556, 1278.

Casey, A. T. See **Bond,** A. M., 773.

Casey, Sylvia, **Levason,** William, and **McAuliffe,** Charles A. Co-ordination chemistry of manganese. Part III. The reaction of manganese(II) halides with tertiary phosphine and arsine ligands to produce ligand oxide complexes, 886.

Cattaïni, Lucio. See **Annibale,** Giuliano, 802.

Cattermole, Peter E., **Orrell,** Keith G., and **Osborne,** Anthony G. Preparation and nuclear magnetic resonance investigation of some stereochemically non-rigid derivatives of dodecacarbonyltetrairidium, 328.

Caughman, H. Dan. See **Newton,** Gary, 258, 1031.

Celsi, Stelvio, **Secco,** Fernando, and **Venturini,** Marcella. Kinetics of reaction between vanadium(V) and iodide ions in the presence of oxygen, 793.

Cenini, Sergio. See **Beck,** Wolfgang, 298.

Çetinkaya, Bekir, **Dixneuf,** Pierre, and **Lappert,** Michael F. Carbene complexes. Part VIII. Chromium(0), iron(0), rhodium(I), iridium(I), nickel(II), palladium(II), platinum-(II), and gold(I) mono- and oligo-carbene species from electron-rich olefins, 1827.

Çetinkaya, Bekir, **Lappert,** Michael F., **McLaughlin,** George M., and **Turner,** Keith. Carbene complexes. Part VII. Chloromethyleneammonium chlorides. Electron-rich carbenoids as precursors to secondary carbene metal complexes; crystal and molecular structure of trichloro(dimethylaminomethylene)bis(triethylphosphine)rhodium-(III), 1591.

Çetinkaya, Engin, **Johnson,** Alan W., **Lappert,** Michael F., **McLaughlin,** George M., and **Muir,** Kenneth W. Synthesis, properties, and crystal structure of octaethylporphin bis[*cis*-dicarbonyldichlororhodate(I)] $[oepH_4]^{2+}2[RhCl_2(CO)_2]^-$ and some new reactions of Co(oep) derivatives, 1236.

Chadwick, David. See **Allen,** Geoffrey C., 1296.

Chakladar, Jiban K. See **Gupta,** Kalyan K. Sen, 222.

Chambers, Owen R. See **Oates,** Gerald, 1380.

Chan, Peter K. H. See **Birchall,** Thomas, 2157.

Chandler, Graham S., **Raston,** Colin L., **Walker,** Geoffrey W., and **White,** Allan H. Crystal structure of a linear polymeric 1 : 1 adduct of copper(I) chloride and 2,3-diazabicyclo[2,2,1]hept-2-ene, 1797.

Chatt, Joseph, **Crabtree,** Robert H., **Dilworth,** Jonathan R., and **Richards,** Raymond L. Tris(dimethylphenylphosphine)(dinitrogen)(dithiocarbamato)rhenium complexes and their reactions with hydrogen halides, 2358.

Chatt, Joseph, **Heath,** Graham A., and **Richards,** Raymond L. Diazene-*N*-(di-imide) and hydrazido-(2—)*N*-(amino-imido) complexes: the addition of acids to dinitrogen complexes, 2074.

Chatt, Joseph. See **Adams,** Robert W., 1075.

Chau, Wah-Kin, **Lee,** Wing-Kai, and **Poon,** Chung-Kwong. Structural and mechanistic studies of co-ordination compounds. Part X. Steric effects in aquation of some octahedral cobalt(III) complexes of 1,4,8,11-tetra-azacyclotetradecane and *meso*-1,4,8,11-tetra-aza-5,5,7,12,12,14-hexamethylcyclotetradecane, 2419.

Cherwinski, Walter J., **Johnson,** Brian F. G., and **Lewis,** Jack. Preparation of platinum π-olefin complexes from bis(1,5-diphenylpenta-1,4-dien-3-one)platinum(0), 1405.

Chini, Paolo. See **Albano,** Vincenzo G., 432.

Chivers, Tristram, and **Drummond,** Ian. Formation of the blue trisulphur radical anion, S_3^-, in solutions of alkali polysulphides in dimethylformamide, and from elemental sulphur and piperidyl-lithium in hexamethylphosphoramide, 631.

Chui, Kui M., and **Powell,** H. Marcus. Pyramidal five-co-ordination with flattened tetrahedral basal bonds. Crystal and molecular structures of dibromotris-(5-ethyl-5*H*-dibenzophosphole)palladium(II)–chlorobenzene, dibromotris-(5-ethyl-5*H*-dibenzophosphole)platinum(II)–bromobenzene, and dibromotris-(5-methyl-5*H*-dibenzophosphole)platinum(II)–bromobenzene, 1879.

Comparison of stereochemistry in racemic and optically resolved forms of a five-co-ordinate compound. Crystal and molecular structures of dibromotris-(2-phenylisophosphindoline)palladium(II)–acetone (orange) and dibromotris-(2-phenylisophosphindoline)palladium(II) (red), 2117.

Churchill, Melvyn Rowen, and **Wormald,** John. Crystal and molecular structure of tetramethylammonium carbidohexadecacarbonylhexaferrate(2—), $[Me_4N]_2[Fe_6(CO)_{16}C]$, a hexanuclear iron cluster complex with an encapsulated six-co-ordinate carbon atom, 2410.

Ciani, Gianfranco. See **Albano,** Vincenzo G., 432.

Clack, Dennis W., and **Smith,** William. Molecular orbital

calculations on transition metal complexes. Part VIII. Potential energy curves for some $3d^6$ complexes and their relation to Tanabe–Sugano diagrams, 2015.

Clare, Philip, **King,** Trevor J., and **Sowerby,** D. Bryan. Crystal structures of *cis*-2,4,6-trichloro- and *cis*-2,4,6-tribromo-2,4,6-trifluorocyclotri(phosphazene), 2071.

Clark, Charles R., and **Hay,** Robert W. Reactions of co-ordinated nitriles. Part II. Nickel(II)- and cobalt(II)-promoted hydrolysis of 2-cyano-8-hydroxyquinoline, 2148.

Clark, Charles R. See **Hay,** Robert W., 9.

Clark, James H., and **Emsley,** John. Very strong hydrogen bonds formed between carboxylic acids and anions: trifluoroacetic and acetic acids with acetates and fluoride, 1125.

Clark, Robin J. H., and **Coles,** Michael A. Reactions of various organotitanium compounds with potentially bidentate alkenyloxo- and related ligands, 1462.

Clark, Robin J. H. See **Bosworth,** Yvonne M., 1749.

Clark, Russell, **Howard,** Judith, and **Woodward,** Peter. Crystal and molecular structure of di-μ-chloro-bis-{[1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne]-copper(I)}, 2027.

Clarke, Peter L., and **Wardell,** James L. Group IVB organometallic sulphides. Part V. Reactions of lead sulphides with some electrophilic species and mercury compounds. Comparison of the reactions of aryl triorganolead sulphides with those of the other Group IVB sulphides, 190.

Clarkson, Steven G. See **Bottomley,** Frank, 2344.

Clegg, William, and **Wheatley,** Peter J. Crystal structure of μ-[di-(2-methoxyethyl)ethercadmio]-bis(pentacarbonylmanganese)(*2Cd–Mn*), 424.

Crystal structures of μ-[2,2′-bipyridylcadmium]-bis(pentacarbonylmanganese)(*2Cd–Mn*) and μ-[1,10-phenanthrolinecadmium]-bis(pentacarbonylmanganese)(*2Cd–Mn*), 511.

Clemens, John, **Green,** Michael, and **Stone,** F. Gordon A. Reactions of low-valent metal complexes with fluorocarbons. Part XXVIII. Nickelocene and tricarbonyl-(π-allylic)cobalt complexes with bis(trifluoromethyl)diazomethane, 93.

Clement, D. Alun. See **Nixon,** John F., 1993.

Clifford, Alan F., and **Harman,** John S. Preparation and properties of difluoro(heptafluoroisopropyl)nitrilosulphur, 571.

Coates, Geoffrey E., and **Smith,** David L. Addition of organoberyllium hydrides to some cyanides, 1737.

Coates, Geoffrey E. See **Andersen,** Richard A., 1171, 1440, 1729.

Cohen, Haim, and **Meyerstein,** Dan. Ultraviolet–visible spectrum, and kinetics of formation and decomposition, of penta-aquahydridochromium(III) and chromium(I) in aqueous perchlorate solutions: a pulse-radiolysis study, 2559.

Cole-Hamilton, David J., and **Stephenson,** T. Anthony. Metal complexes of sulphur ligands. Part V. Dialkyl-, diaryl-phosphinodithioato- and *NN*-dialkyldithiocarbamato-complexes of ruthenium(II). Part VI. Studies of facile optical isomerism reactions in dimethylphosphinodithioato-complexes of ruthenium(II). Part VII. Reaction of *mer*-trichlorotris(dimethylphenylphosphine)-rhodium(III) with *NN*-dimethyldithiocarbamate, dimethyl- and diphenyl-phosphinodithioate, and *O*-ethyl dithiocarbonate (xanthate) ligands, 739, 754, 1818.

Cole-Hamilton, David J. See **Owen,** John D., 1867.

Coles, Michael A. See **Clark,** Robin J. H., 1462.

Collamati, Ines. See **Allanasio,** Donato, 1319, 2442.

Collela, Carmine. See **Barrer,** Richard M., 934.

Collin, Richard J., **Jones,** Jacqueline (Miss), and **Griffith,** William P. Reaction of osmium tetroxide with alkenes, glycols, and alkynes; oxo-osmium(VI) esters and their structures, 1094.

Collin, Richard J. See **Agnew,** Neville H., 272.

Collins, Anthony J., **Fraser,** George W., **Perkins,** Peter G., and **Russell,** David R. Preparation, properties, and crystal structure of the cyclic compound formed by the thermal dehydration of 1-hydroxyethylidenediphosphonic acid, 960.

Collins, Paul H., and **Webster,** Michael. Crystal and molecular structure of tetraphenylarsonium aquotetrachlorohydroxotellurate(IV), 1545.

Collins, Peter. See **Al-Mallah,** Khawla, 2469.

Connelly, Neil G., and **Kelly,** Raymond L. Dicarbonylnitrosylchromium complexes of methylbenzenes and methylcyclohexadienyls, 2334.

Connor, Joseph A., **McEwen,** Gerald K., and **Rix,** Colin J. Ditertiary alkylphosphine derivatives of the Group VI metal carbonyls and their oxidation with iodine, 589.

Contreras, J. Guillermo, and **Tuck,** Dennis G. Co-ordination compounds of indium. Part XXV. Dihalogeno(acetylacetonato)indium(III) complexes, 1249.

Cook, Diana H. See **Cape,** J. Neil, 1849.

Cookson, David J., **Smith,** Thomas D., and **Pilbrow,** John R. Physicochemical study of titanium(III) mononuclear, dinuclear, and dimeric polyaminocarboxylates formed in aqueous and frozen aqueous solution, 1396.

Cooper, Mervyn K., **Garman,** David E. J., and **Yaniuk,** Darryl W. Ion-exchange evidence for the polynuclear ion tris[hydroxoberyllium(II)], 1282.

Corbin, James L. See **Newton,** William E., 1044.

Corradi, Anna Bonamartini, **Palmieri,** Clotilde Grasselli, **Nardelli,** Mario, and **Pelizzi,** Corrado. Crystal structure and physicochemical properties of a mixed-chelated nickel complex: aquo-{*o*-[(2-pyridylmethylene)amino]benzamide}-[2-(2-pyridyl)-1,2,3,4-tetrahydroquinazolin-4-one]nickel(II) dinitrate tetrahydrate, 150.

Cotton, F. Albert, and **Troup,** Jan M. Accurate determination of a classic structure in the metal carbonyl field: nonacarbonyldi-iron, 800.

Couch, David A., **Robinson,** Stephen D., and **Wingfield,** Jonathan N. Transition-metal complexes containing phosphorus ligands. Part XIII. Dialkyl phenylphosphonite and alkyl diphenylphosphinite derivatives of silver, gold, and the platinum metals, 1309.

Coy, David H., **Fitton,** Frank (in part), **Haszeldine,** Robert N., **Newlands,** Michael J., and **Tipping,** Anthony E. Polyfluoroalkyl compounds of silicon. Part X. Further silanes containing the bis(trifluoromethyl)amino-group, 1852.

Crabtree, Robert H. See **Chatt,** Joseph, 2358.

Cradock, Stephen, **Findley,** Robert H., and **Palmer,** Michael H. Bonding in methyl- and silyl-cyclopentadiene compounds: a study by photoelectron spectroscopy and *ab initio* molecular-orbital calculations, 1650.

Cragg, Richard H., and **Nazery,** Manije (Miss). Organoboron compounds. Part VII. Boron derivatives of *o*-hydroxybenzyl alcohol, 162. Part VIII. Synthesis and properties of some 2-substituted 1,3,2-oxathiaborinans, 1438.

Creffield, Geoffrey K., **Down,** Michael G., and **Pulham,**

Richard J. Electrical resistivity of liquid and solid lithium, 2325.
Creighton, J. Alan. Configurations of weak interactions from vibrational perturbations in tetrahedral XY_4 molecules or ions, 2289.
Cristini, Alessandro. See **Cannas,** Mario, 1278.
Crociani, Bruno, and **Richards,** Raymond L. ^1H Nuclear magnetic resonance spectra of carbene complexes of platinum(II) and palladium(II), 693.
Crofts, John A. See **Allen,** Geoffrey C., 1296.
Cross, Ronald J., and **Tennent,** Norman H. Phosphine exchange in *trans*-chlorobis(methyldiphenylphosphine)-[2-(phenylazo)phenyl]platinum(II) promoted by intramolecular nucleophilic attack, 1444.
Curtis, John L. S., and **Hartwell,** George E. Preparation and characterization of rhodium(I) complexes containing bidentate diphenyl(prop-2-enyloxo)phosphine and (but-3-enyl)diphenylphosphine ligands, 1898.
Curtis, Michael T. See **Allen,** Geoffrey C., 1296, 1525.
Curtis, Neil F. Some metal-ion complexes with ligands formed by reaction of amines with aliphatic carbonyl compounds. Part IV. Some compounds of nickel(II) and copper(II) formed by the diaminoethane–butanone reaction, 347.
Cusumano, Matteo, **Faraone,** Giovanni, **Ricevuto,** Vittorio, **Romeo,** Raffaello, and **Trozzi,** Marcello. Fast reactions at planar four-co-ordinate complexes. Part I. Nucleophilicity towards palladium(II) complexes, 490.

D

Daly, John J., and **Sanz,** Francisco. Crystal and molecular structure of [iminobis(ethyleneoxy)]diphenylsilane: a five-co-ordinate silicon compound, 2051.
Crystal and molecular structure of 2-phenyl-1-phosphanaphthalene (2-phenylphosphinoline), 2388.
Daniel, Harry T., **Harries,** Hugo J., and **Burgess,** John. 1-Substituted butane-1,3-diones: acid dissociation constants and stabilities of manganese(II), cobalt(II), and copper(II) chelate complexes in aqueous dioxan (50% v/v), 2219.
Dann, Peter E. See **Bullen,** Graham J., 705.
Das, Manoranjan, **Livingstone,** Stanley E., **Filipczuk,** Stephen W., **Hayes,** John W., and **Radford,** Donald V. Dipole-moment measurements on metal chelate complexes. Part I. Dipole-moment and dielectric-relaxation measurements on square-planar and octahedral metal complexes of seven mercapto-β-diketones, 1409.
Das, Pijush K. Catalytic reduction of hydrogen ions in solution in the presence of vitamin B_{12a} and buffer acids, 2475.
Das, Sunilkumar, **Shaw,** Robert A., and **Smith,** Barry C. Phosphorus–nitrogen compounds. Part XXXIX. Friedel–Crafts reactions of chloro(piperidino)cyclotriphosphazatrienes with benzene, 1610.
Das, V. G. Kumar. See **Bancroft,** G. Michael, 2355.
Davey, Geoffrey, and **Stephens,** Frederick S. Structure of an iron–cobalt organometallic complex. Crystal and molecular structure of di-μ-carbonyl-carbonyl[dicarbonyl-(methyldiphenylphosphine)cobaltio]-π-cyclopentadienyliron, 698.
David, Feeya. See **Lima,** Bendix J. C., 680.
David, Pazhayirayyathu G. See **Lima,** Bendix J. C., 680.
Davies, Christopher H., **Game,** Colin H., **Green,** Michael, and **Stone,** F. Gordon A. Reaction of amines with nickel palladium, and platinum complexes containing isocyanide and fluorocarbon ligands to yield monocarbene complexes, 357.
Davies, John E., and **Gatehouse,** Bryan M. Crystal and molecular structure of *trans*-dichlorobis-(*N*-methylsalicylaldiminato)molybdenum(IV), 184.
Davies, Keith M., and **Stedman,** Geoffrey. Reaction between hexacyanoferrate(III) ion and nitric and nitrous acids. Part I. Kinetics, 2176.
Davies, Keith M. See **Bates,** John C., 246, 2182.
Davis, Reginald. See **Addison,** C. Clifford, 1073, 2070.
Day, Peter, **Diggle,** Paul J., and **Griffiths,** Graham A. Charge-transfer spectra of post-transition-metal halide complexes, 1446.
Day, Peter. See **Jeans,** David B., 1777, and **Mayoh,** Bryan, 846.
Deane, Michael E. See **Carroll,** W. Eamon, 1837.
De Boer, Engbert. See **De Vries,** Joop L. K. F., 1771.
Deeming, Antony J., **Ullah,** Shafi S., **Domingos,** António J. P., **Johnson,** Brian F. G., and **Lewis,** Jack. Reactivity of co-ordinated ligands. Part XX. Preparation and reactions of cyclo-octadiene complexes of iron, ruthenium, and osmium, 2093.
Deeming, Antony J., and **Underhill,** Mark. Reactions of dodecacarbonyl-*triangulo*-triosmium with alkenes and benzene; fluxional behaviour of μ_3-(ethan-1-yl-2-ylidyne)-di-μ-hydrido-*triangulo*-tris(tricarbonylosmium)(3*Os*–*Os*), 1415.
Deeming, Antony J. See **Yin,** Candido Choo, 1013.
Deeney, F. Anthony. See **Carroll,** W. Eamon, 1430.
Degetto, Sandro, **Marangoni,** Giampaolo, **Bombieri,** Gabriella, **Forsellini,** Eleonora, **Baracco,** Livio, and **Gaziani,** Rodolfo. Nature of the dioxobis(tropolonato)uranium(VI) system and its complexes with neutral ligands. Crystal and molecular structure of dioxo(pyridine)bis-(tropolonato)uranium(VI), 1933.
Dessy, Giulia. See **Bonamico,** Mario, 1258.
De Vries, Joop L. K. F., **Trooster,** Jan M., and **De Boer,** Engbert. High-spin iron(II) chelate complexes with β-diketonate and Schiff base ligands: Mössbauer and electronic spectra, 1771.
Dewan, John C. See **Epstein,** Joel M., 1949, and **Maslen,** Edward N., 2128.
Diggle, Paul J. See **Day,** Peter, 1446.
Dilworth, Jonathan R. See **Chatt,** Joseph, 2358.
Dixneuf, Pierre. See **Çetinkaya,** Bekir, 1827.
Dixon, Keith R., **Moss,** Kenneth C., and **Smith,** Martin A. R. Synthesis, reactivity, and fluorine-19 nuclear magnetic resonance spectra of binuclear trifluoromethylthio-complexes of platinum and palladium, 971.
Djordjević, Cirila. See **Brničević,** Nevenka, 165.
Dobbie, Robert C., and **Hopkinson,** Michael J. Reaction of some fluorocarbon bisphosphines with iron carbonyl complexes, 1290.
Dobbie, Robert C., and **Mason,** Peter R. Reactions of a terminal phosphido-group in an organoiron complex. Part II. New routes to derivatives of the tricarbonyl-(η-cyclopentadienyl)iron cation, 2439.
Dobson, Christopher M., **Williams,** Robert J. P., and **Xavier,** Antonio V. Ethylenediaminetetra-acetato-lanthanate-(III), -praesodimate(III), -europate(III), and -gadolinate-(III) complexes as nuclear magnetic resonance probes of the molecular conformations of adenosine 5′-monophosphate and cytidine 5′-monophosphate in solution, 1762.

Dobson, Christopher M. See **Barry,** C. David, 1765.
Dodd, David, **Johnson,** Michael D., and **Fong,** Clifford W. σ-Bonded organotransition metal ions. Part XV. Preparation and fluorine-19 nuclear magnetic resonance spectra of some monomeric anionic, cyanide-bridged dimeric anionic, and related fluorobenzylcobalt(III) complexes, 58.
Dodman, Peter, and **Hamor,** Thomas A. Crystal and molecular structure of tricarbonyl(decafluorocyclohepta-1,3-dienyl)iron, 1010.
Dollimore, L. S., **Gillard,** R. D., and **Mather,** I. H. Optically active co-ordination compounds. Part XXXIII. Bacterial resolution of bis(ethylenediamine)1,10-phenanthrolinecobalt(III) chloride, 2,2′-bipyridylbis(ethylenediamine)cobalt(III) chloride, and potassium (ethylenediaminetetra-acetato)cobaltate(III), 518.
Domingos, Angela M. (Mrs.), and **Sheldrick,** George M. Crystal and molecular structure of dimeric dimethyltin nitrate hydroxide [di-μ-hydroxo-bis(dimethylnitratotin)], 475.
Crystal structure of polymeric tris(trimethyltin) chromate hydroxide, 477.
Domingos, Antonio J. P., **Johnson,** Brian F. G., and **Lewis,** Jack. Reactivity of co-ordinated ligands. Part XVI. The reaction of bicyclo[3.2.1]octa-2,6-diene with dodecacarbonyltriruthenium, 145.
Domingos, Antonio J. P. See **Deeming,** Antony J., 2093.
Donaldson, Ruth, **Hunter,** Geoffrey, and **Massey,** Robert C. Complexes of 1,2-bis(isopropylseleno)ethane with chromium, molybdenum, and tungsten carbonyl complexes: a conformational study of a chelated selenium ligand by nuclear magnetic resonance, 288.
Douek, Zacci. See **Ashley-Smith,** John, 128.
Dougill, Maryon W., and **Paddock,** Norman L. Crystal and molecular structure of dodecamethoxycyclohexaphosphazene: non-bonded interactions and conformation, 1022.
Down, Michael G. See **Creffield,** Geoffrey K., 2325.
Downs, Anthony J. See **Peake,** Stephen C., 859.
Doyle, Michael J., **Lappert,** Michael F., **McLaughlin,** George M., and **McMeeking,** John. Alkylideneamido-derivatives of metals and metalloids. Part VI. The synthesis of alkylideneamido(carbene)rhodium(I) complexes and related chemistry; the crystal and molecular structure of *trans*-Rh[N:C(CF$_3$)$_2$][C(NMeCH$_2$)$_2$](PPh$_3$)$_2$, 1494.
Drake, John E., **Hencher,** J. Lawrence, and **Rapp,** Bernard. Phosphine–borane derivatives. Part VII. The vibrational spectra of the phosphine adducts of boron trihalides, 595.
Drake, John E. See **Barker,** Geoffrey K., 450.
Drew, Michael G. B., and **Wilkins,** John D. Crystal and molecular structure of trichlorobis-(*N*-methylthioacetamido)niobium(V), 198.
Crystal and molecular structure of trichlorobis-(*NN*′-diisopropylacetamidinato)tantalum(V), 1579.
Crystal and molecular structure of tricarbonyliodotris-(dimethylphenylphosphino)tungsten(II) tetraphenylborate, 1654.
Crystal and molecular structure of dichlorobis-(*NN*-dicyclohexylacetamidinato)methyltantalum(V), 1973.
Drummond, Ian. See **Chivers,** Tristram, 631.
Dudley, Colin W., **Read,** Gordon, and **Walker,** Peter J. C. Oxygenation studies. Part I. Rhodium(I)-promoted oxygenation of terminal olefins to methyl ketones, 1926.
Dudley, Richard J., **Hathaway,** Brian J., **Hodgson,** Peter G., **Power,** Peadar C., and (in part) **Loose,** David J. Single-crystal electronic and electron spin resonance spectra of four trigonal bipyramidal copper(II) complexes, 1005.
Duff, James M., **Mann,** Brian E., **Shaw,** Bernard L., and **Turtle,** Brian. Transition metal–carbon bonds. Part XXXVI. Internal metallations of platinum–dimethyl-(1-naphthyl)phosphine and –dimethyl(1-naphthyl)arsine complexes and attempts to effect similar reactions with palladium, 139.
Du Preez, A. Louis. See **Basson,** William D., 1708, and **Kruger,** Gert J., 1302.
Dyke, John M. See **Hush,** Noel S., 395.

E

Ebsworth, E. A. V. See **Smith,** John, 1742.
Edmunds, John A. G. See **Hay,** Robert W., 9.
Edwards, Anthony J., **Falconer,** Warren E., **Griffiths,** James E., **Sunder,** Walter A., and **Vasile,** Michael J. Syntheses and some properties of dioxygenyl fluorometallate salts, 1129.
Edwards, Anthony J., **Falconer,** Warren E., and **Sunder,** Walter A. New preparations of chromium oxide tetrafluoride and chromium dioxide difluoride, 541.
Edwards, Anthony J., and **Sills,** Richard J. C. Fluoride crystal structures. Part XXII. Chloryl μ-fluoro-bis-[pentafluoroantimonate(V)], 1726.
Edwards, Julian D., **Wieghardt,** Karl, and **Sykes,** A. Geoffrey. Reactions of μ-hydroxo-dicobalt(III) complexes. Part XII. Equilibrium and kinetic studies on hydroxo-bridge cleavage reactions of two triply-bridged dicobalt(III) complexes in aqueous perchloric acid solutions, 2198.
Edwards, Julian D., **Yang,** Chen-Hwa, and **Sykes,** A. Geoffrey. Kinetics and mechanisms of the reduction of μ-amido-μ-superoxo- and μ-amido-μ-peroxo-bis[bis(ethylenediamine)cobalt(III)] complexes by sulphite, nitrite, and arsenite in aqueous solutions: evidence for bonded and non-bonded activated complexes in the reduction of dioxygen-bridged complexes, 1561.
Edwards, Robert, **Howell,** James A. S., **Johnson,** Brian F. G., and **Lewis,** Jack. Reactivity of co-ordinated ligands. Part XXI. Ligand substitution and nucleophilic reactivity of cyclohexa-, cyclohepta-, and cycloocta-dienylium complexes of iron, 2105.
Eilbeck, W. John, **West,** Martin S., and (in part) **Owen,** Yvonne E. Thermochemical studies of Vitamin B$_{12}$. Part I. Thermodynamic parameters for acid dissociation of aquocobalamin (Vitamin B$_{12a}$), 2205.
Einstein, Frederick W. B., and **MacGregor,** Alan C. Crystal structure of an iron–antimony molecular complex bis-μ-[dicarbonyl(π-cyclopentadienyl)ferriochloro]-bis{[dicarbonyl(π-cyclopentadienyl)ferriochloro]trichloroantimony}, 778.
Crystal structure of μ-(dimethylarsino)-μ-[3,3,4,4-tetrafluoro-2-(dimethylarsino)cyclobut-1-enyl(*As*,*C*)]-bis-(tetracarbonylmanganese), 783.
El-Awady, Abbas A. Kinetics of acid and base hydrolysis of azido[(*RR*)-1,11-diamino-3,6,9-triazaundecane]cobalt(III), 1264.
El-Awady, Abbas A. See **Annibale,** Giuliano, 802.
Empsall, H. David, **Hyde,** Eileen M., **Jones,** Christopher E., and **Shaw,** Bernard L. Oxidative addition, carbonyl insertion, and *O*-demethylation reactions of rhodium complexes with tertiary 2-methoxyphenylphosphines, 1980.
Emsley, John, **Middleton,** Trevor B., and **Williams,** John K.

Preparation and characterization of phosphetan alkoxides and aryloxides. Production of *cis*- and *trans*-isomers from *trans*-1-chlorophosphetan 1-oxide, 633.
Emsley, John. See **Clark,** James H., 1125.
Engel, Peter. See **Buser,** Hans Jorg, 2473.
Engelhardt, Lutz M. See **Maslen,** Edward N., 1799.
Epstein, Joel M., **Dewan,** John C., **Kepert,** David L., and **White,** Allan H. Crystal structures of tris(1,8-naphthyridine)(perchlorato)mercury(II) perchlorate and tetrakis-(1,8-naphthyridine)cadmium(II) bis(perchlorate), 1949.
Epstein, Joel M., **Figgis,** Brian N., **White,** Allan H., and **Willis,** Anthony C. Crystal structures of two trinuclear Schiff-base copper(II) complexes, 1954.
Epstein, Joel M., **White,** Allan H., **Wild,** S. Bruce, and **Willis,** Anthony C. Crystal structure of tetraethylammonium μ-chloro-*abefh*-pentachloro-μ-nitrosyl-nitrosyldiplatinate(II), 436.
Epstein, Joel M. See **Brotherton,** Peter D., 2341.
Ercolani, Claudio. See **Attanasio,** Donato, 1319, 2442.
Ercoli, Raffaele. See **Filardo,** Giuseppe, 1787.
Evans, Alwyn G., **Evans,** Jeffrey C., and **Moon,** Edward H. Electron spin resonance studies of Ziegler-type catalysts. Part I. Characterisation of a vanadium–aluminium complex obtained on mixing dichlorobis(η-cyclopentadienyl)-vanadium with ethylaluminium dichloride, 2390.
Evans, Dennis F., and **Wyatt,** Michael, Nuclear magnetic resonance studies of lanthanide complexes. Part I. Solvation numbers and kinetics of substrate exchange in lanthanide shift reagent systems, 765.
Evans, I. Philip, and **Wilkinson,** Geoffrey, Complexes of pyridine-2-thiol with some transition metals, 946.
Evans, Jeffrey C. See **Evans,** Alwyn G., 2390.
Evans, John, **Johnson,** Brian F. G., **Lewis,** Jack, and **Watt,** Robert. Dynamics and reactivity of μ-(1-σ,5,6-η:2—4-η-cycloheptadienyl)- and μ-(1-σ,5,6-η:2—4-η-cyclo-octadienyl)-bis[(η-cyclopentadienyl)rhodium] (*Rh–Rh*), 2368.
Evans, John, **Johnson,** Brian F. G., **Lewis,** Jack, and **Yarrow,** Douglas J. Reactivity of co-ordinated ligands. Part XXII. Protonation of (η-cyclo-octatetraene)(η-cyclopentadienyl)-cobalt(I), -rhodium(I), and -iridium(I), 2375.
Evans, Stephen, **Green,** Jennifer C., **Jackson,** Sally E., and **Higginson,** Brian. He(I) photoelectron spectra of some transition-metal sandwich complexes, 304.

F

Fabbrizzi, Luigi. See **Barbucci,** Rolando, 2403.
Fachinetti, Giuseppe, and **Floriani,** Carlo. Cleavage of the sulphur–sulphur bond in alkyl and aryl disulphides by dicarbonylbis(η-cyclopentadienyl)titanium(II) and bis(η-cyclopentadienyl)vanadium(II): synthesis and properties of alkylthio- and arylthio-derivatives of titanium(IV), titanium(III), vanadium(IV), and vanadium(III), 2433.
Falcinella, Bruno, **Felgate,** Peter D., and **Laurence,** Gerald S. Aqueous chemistry of thallium(II). Part I. Kinetics of reaction of thallium(II) with cobalt(II) and iron(III) ions and oxidation–reduction potentials of thallium(II), 1367.
Falconer, Warren E. See **Edwards,** Anthony J., 541, 1129.
Fallon, Gary D., and **Gatehouse,** Bryan M. Crystal and molecular structure of (*NN*-dimethylbenzylamine-2*C*,*N*)-(*N*-phenylsalicylaldiminato)palladium(II), 1632.
Faraone, Felice, **Pietropaolo,** Rosario, and **Rotondo,** Enrico. Tetra(isocyanide)iridium(I) cations obtained from poly-(tricarbonylchloroiridium), 2262.
Faraone, Giovanni, **Ricevuto,** V., **Romeo,** R., and **Trozzi, M.** Steric effects in substitution reactions of *cis*- and *trans*-arylchlorobis(triethylphosphine)platinum(II) complexes: new kinetic data for the approach to the problem of transition-state geometry, 1377.
Faraone, Giovanni. See **Cusumano,** Matteo, 490.
Fares, Vincenzo. See **Bonamico,** Mario, 1258.
Fawcett, J. Paul. See **Basato,** Marino, 1350, 1856.
Felgate, Peter D. See **Falcinella,** Bruno, 1367.
Fendler, Eleanor J. See **O'Connor,** Charmian J., 625.
Fendler, Janos H. See **O'Connor,** Charmian J., 625.
Fenger, Jes, and **Frees,** Lars A. Aftereffects of the cobalt-57–iron-57 electron-capture reaction in cobalt-57-doped tricadmium bis[hexacyanoferrate(III)] dodecahydrate, 2309.
Fenger, Jes, and **Olsen,** Jørgen. Temperature-dependent after-effects of the cobalt-57–iron-57 electron-capture reaction in $Cd_3[^{57}Co(CN)_6]_2,12H_2O$, 319.
Fenton, David E., and **Newman,** Roger. Complexes of thallium(I), lead(II), and calcium hexafluoroacetylacetonates with nitrogen containing ligands, 655.
Fenton, David E. See **Belford,** Rosemary C. E., 17.
Ferguson, David. See **Bowden,** Frank L., 460.
Ferraris, Giovanni, and **Gervasio,** Giuliana. Crystal and molecular structure of nonacarbonyl-μ-(1,2,3,4-tetraphenylbutadiene-1,4-diyl)-*triangulo*-triosmium, (Ph_4C_4)-$Os_3(CO)_9$, 1813.
Field, John S., and **Wheatley,** Peter J. Crystal structure of *trans*-carbonyl(*p*-chlorophenyl)bis(triethylphosphine)platinum(II) hexafluorophosphate, 702.
Field, John S., **Wheatley,** Peter J., and **Bhaduri,** Sumit. Crystal structure of {[2-(diphenylphosphino)ethyl]diphenylphosphine oxide}iodonitrosylcobalt(0), 74.
Fieldhouse, Stephen A., **Fullam,** Brian W., **Neilson,** George W., and **Symons,** Martyn C. R. Reaction of metal carbonyls with oxygen, 567.
Fieldhouse, Stephen A., **Lyons,** Arthur R., **Starkie,** Haydn C., and **Symons,** Martyn C. R. Unstable intermediates. Part CXLVII. Electron spin resonance spectra of radicals in irradiated organotin compounds: the radicals R_3Sn, R_4Sn^-, R_5Sn, R_3SnCl^-, $Ph_6Sn_2^-$, $H_2\dot{C}Sn(Me)_2SnMe_3$, and $H_2\dot{C}Sn(Me)_2Cl$, 1966.
Fieldhouse, Stephen A. See **Basato,** Marino, 1856.
Figgis, Brian N. See **Epstein,** Joel M., 1954.
Filardo, Giuseppe, **Galluzzo,** Mosè, **Giannici,** Bruno, and **Ercoli,** Raffaele. Electrocatalytic hydrogenation of 2-ethylhexanal, 2-ethylhex-2-enal, acetophenone, benzophenone, butan-2-one, and cyclohexanone, 1787.
Filardo, Giuseppe, and **Guainazzi,** Mauro. Electrolytic behaviour of 1,2-dichloroethane–ethylene mixtures towards aluminium anodes, 678.
Filipczuk, Stephen W. See **Das,** Manoranjan, 1409.
Findley, Robert H. See **Cradock,** Stephen, 1650.
Fischer, Jean, **Ricard,** Louis, and **Toledano,** Paul. A novel phosphomolybdate structure: crystal structure of $[NH_4]_5$-$[(MoO_3)_5(PO_4)(HPO_4)],3H_2O$, 941.
Fishwick, J. P. (Mrs.), **Jotham,** R. W., **Kettle,** Sidney F. A., and **Marks,** J. A. Antiferromagnetism in transition-metal complexes. Part VI. Low-lying excited states of dinuclear copper(II) complexes with bridging multidentate Schiff's base groups and some related compounds, 125.
Fitton, Frank. See **Coy,** David H., 1852.
Fletcher, Steven R., and **Skapski,** Andrzej C. Crystal and molecular structure of carbonyltris(*NN*-diethyldithio-

carbamato)rhenium(III): a complex of seven-co-ordinate rhenium, 486.
Flint, Colin D. See **Black,** Aline M., 977.
Floriani, Carlo. See **Fachinetti,** Giuseppe, 2433.
Foffani, Antonio. See **Cardaci,** Giuseppe, 1808.
Fong, Clifford W. See **Dodd,** David, 58.
Foong, Siew-Wan (Miss), and **Sykes,** A. Geoffrey. Reactions of μ-hydroxo-dicobalt(III) complexes. Part XI. Kinetic studies on the reaction of bromide with the μ-amido-μ-hydroxo-bis[tetra-amminecobalt(III)] complex, 1453.
Forsellini, Eleonora. See **Degetto,** Sandro, 1933.
Fowles, Gerald W. A., **Rice,** David A., and **Wilkins,** John D. Some co-ordination compounds of trimethylniobium(V) dichloride and trimethyltantalum(V) dichloride, 1080.
Fowles, Gerald W. A. See **Britnell,** David, 2191.
Fraser, Alan J. F., and **Gould,** Robert O. Crystal and molecular structure of thiocarbonylbis(triphenylphosphine)rutheniumtri-μ-chloro-chlorobis(triphenylphosphine)ruthenium, 1139.
Fraser, C. Joy W., **Sharp,** David W. A., **Webb,** Geoffrey, and **Winfield,** John M. Radiotracers in fluorine chemistry. Part II. Fluorine-18 exchange between carbonyl fluoride and Group I fluorides. Effect of dipolar, aprotic solvents, 112.
Fraser, George W., and **Millar,** James B. Reactions of tellurium hexafluoride with alcohols: preparation and properties of mono- and di-alkoxotellurium(VI) fluorides, 2029.
Fraser, George W. See **Collins,** Anthony J., 960.
Fraser, Louis R. See **Blake,** Antony B., 2554.
Fraser, Paul J., **Roper,** Warren R., and **Stone,** F. Gordon A. Cationic cyclic carbene complexes of iridium(III), nickel(II), palladium(II), and platinum(II), 102.
Carbene complexes of iridium, rhodium, manganese, chromium, and iron containing thiazolidinylidene and pyridinylidene ligands, 760.
Frees, Lars A. See **Fenger,** Jes, 2309.
Freund, Edouard F. See **Barrer,** Richard M., 1049, 2054, 2060, 2123.
Friedt, J. M., **Shenoy,** G. K., **Masson,** M., and **Leroy,** M. J. F. Antimony-121 Mössbauer spectroscopy of some cyanide adducts of antimony pentachloride, 1374.
Frlec, Boris. See **Burgess,** John, 1740.
Fuggle, John C., **Tong,** David A., **Sharp,** D. W. A., **Winfield,** John M., and **Holloway,** John H. Niobium-93 nuclear quadrupole resonance studies of niobium pentafluoride and its complexes with xenon difluoride and some organic bases, 205.
Fullam, Brian W., **Mishra,** Shuddhodan P., and **Symons,** Martyn C. R. Unstable intermediates. Part CXLIX. An electron spin resonance study of various phosphinyl radicals formed by solid-state radiolysis, 2145.
Fullam, Brian W., and **Symons,** Martyn C. R. Unstable intermediates. Part CXLIV. Organomercury radicals in irradiated alkylmercury(II) halides and dimethylmercury, 1086.
Fullam, Brian W. See **Fieldhouse,** Stephen A., 567.
Funabiki, Takuzo, **Kasaoka,** Shizuki, **Matsumoto,** Mitsuo, and **Tarama,** Kimio. Hydrogenation by cyanocobaltate. Part IV. Hydrogenation of conjugated dienes by 2,2′-bipyridinetricyano-, tricyano(ethylenediamine)-, and tricyano(1,10-phenanthroline)-cobaltate(II) complexes, 2043.
Furlani, Claudio. See **Tomlinson,** Anthony A. G., 1420.
Fusina, L. See **Biscarini,** P., 1846, 2140.

G

Gál, D. See **Vasvári,** G., 465.
Gal, Ivan J. See **Nicolić,** Ružica, M. 985.
Gallagher, Kevin J., and **Ottaway,** Martyn R. Action of ammonium fluoride solutions on 'iron(III) hydroxide' gel, 2347.
Galluzzo, Mosè. See **Filardo,** Giuseppe, 1787.
Game, Colin H., **Green,** Michael, **Moss,** John R., and **Stone,** F. Gordon A. Chemistry of the metal carbonyls. Part LXVIII. Complexes of manganese, iron, and ruthenium containing the cyclic carbene 2-oxacyclopentylidene, 351.
Game, Colin H. See **Davies,** Christopher H., 357.
Gancedo, Ramon. See **Maddock,** Alfred G., 1314.
Gardiner, Maureen, and **Thomson,** Andrew J. Luminescence properties of some synthetic metallocorrins, 820.
Gardner, Ian R. See **Adams,** David M., 1502, 1505.
Garman, David E. J. See **Cooper,** Mervyn K., 1282.
Garner, C. David, and **Hughes,** Barry. Inorganic compounds containing the trifluoroacetate group. Part I. Pentacarbonyl(trifluoroacetato)manganese and substituted derivatives, 735.
Divinyltin bistrifluoroacetate and its reactions with sodium salts of metal-carbonyl anions, 1306.
Gastaldi, Leonardo, **Porta,** Piero, and **Tomlinson,** Anthony A. G. Complexes with sulphur and selenium donor ligands. Part IV. Reaction of some bidentate phosphorus and arsenic donors with bis-(*OO′*-dimethyl phosphorodithioato)nickel(II), and the crystal structure of [1-(diphenylarsino)-2-(diphenylphosphino)ethane](*O*-methyl phosphorodithioato)nickel(II)–benzene (2/1), 1424.
Gatehouse, Bryan M. See **Davies,** John E., 184, and **Fallon,** Gary D., 1632.
Gattegno, Daniela. See **Andreocci,** Marco V., 41.
Gaziani, Rodolfo. See **Degetto,** Sandro, 1933.
Gerloch, Malcolm. See **Boyd,** Peter D. W., 1097.
Gervasio, Giuliana. See **Ferraris,** Giovanni, 1813.
Giannici, Bruno. See **Filardo,** Giuseppi, 1787.
Gibb, Terence C., **Greatrex,** Robert, and **Greenwood,** Norman N. Mössbauer studies of Apollo 14 and Apollo 15 lunar soils, 1148.
Gibson, John G., and **McKenzie,** E. Donald. Crystal and molecular structure of chloro[*NN′*-di-(3-aminopropyl)-piperazine]nickel(II) chloride, 989.
Gidney, P. M. See **Bielli,** E., 2133.
Gillard, R. D., and **Hill,** R. E. E. Optically active co-ordination compounds. Part XXXIV. Modification of reaction pathways in 1,10-phenanthroline and its derivatives by metal ions, 1217.
Gillard, R. D., **Laurie,** S. H., **Price,** D. C., **Phipps,** D. A., and **Weick,** C. F. Optically active co-ordination compounds. Part XXXV. Configurations, preparations, and reactivities of some complexes of amino-acids, 1385.
Gillard, R. D., **Mitchell,** P. R., and **Weick,** C. F. Optically active co-ordination compounds. Part XXXVI. Convenient resolution of the (ethylenediaminetetra-acetato)-cobaltate(III) ion, 1635.
Gillard, R. D., and **Pilbrow,** M. F. Adducts of co-ordination compounds. Part XI. Isomerism and solvation of dichlorobis(triphenylphosphine)platinum(II), 2320.
Gillard, R. D. See **Addison,** A. W., 709, **Bielli,** E., 2133, **Browning,** I. G., 373, and **Dollimore,** L. S., 518.
Gilson, T. R. See **Beattie,** Ian R., 1747.
Giordano, Federico. See **Capasso,** Sante, 2228.
Giuliani, Anna M. See **Andreocci,** Marco V., 41.

Glockling, Frank, **Lyle,** Margaret A., and **Stobart,** Stephen R. Vinyl derivatives of silicon, germanium, and tin, **2537.**

Glockling, Frank, and **Pollock,** R. J. Ivan. Bis(trimethylsilyl)mercury and bis(diphenylphosphino)methanedichloroplatinum(II): formation of Pt–$SiMe_3$, Pt–$HgSiMe_3$ bonds, and a platinum(I) complex, **2259.**

Gluvchinsky, Paul, **Mockler,** Garry M., **Healy,** Peter C., and **Sinn,** Ekk. Magnetic, spectroscopic, and structural properties of bis[bromo-, chloro-, and nitrato-(*N*-n-butyl-5-chloro-α-phenyl-2-hydroxybenzylidene)aminato-μ-*O*-copper(II)], **1156.**

Goddard, Richard, **Howard,** Judith, and **Woodward,** Peter. Crystal and molecular structure of 1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne, **2025.**

Goggin, Peter L. Stretching vibrations of planar di-μ-halogeno-bisdihalogeno-palladate(II) and -platinate(II) anions, **1483.**

Goggin, Peter L., **Goodfellow,** Robin J., **Haddock,** Steve R., **Knight,** John R., **Reed,** Francis J. S., and **Taylor,** Brian F. Vibrational spectra and nuclear magnetic resonance parameters of some platinum(IV) complexes $[PtX_4L_2]$ and $[PtX_5L]^-$ (X = Cl, Br, or I; L = NMe_3, PMe_3, $AsMe_3$, or SMe_2), **523.**

Goggin, Peter L., **Goodfellow,** Robin J., and **Reed,** Francis J. S. Preparation and identification by proton nuclear magnetic resonance and proton–platinum-195 INDOR and vibrational spectroscopy of some platinum(II) complexes containing dimethyl sulphide as a bridging ligand, **576.**

Goggin, Peter L., and **Mink,** Janos. Palladium(I) carbonyl halide complexes, **534.**

Vibrational spectra of square-planar tetrahalogeno-gold-(III), -palladium(II), and -platinum(II) anions in solution, **1479.**

Goldstein, Michael. See **Barr,** Roger M., **1180.**

Goodfellow, Robin J., and **Taylor,** Brian F. Determination of the magnitudes and signs of phosphorus–phosphorus coupling ($^2J_{PP}$) by hydrogen-1{phosphorus-31} internuclear double-resonance measurements on some gold(I), iridium(III), mercury(II), palladium(II), platinum-(II) and -(IV), and rhodium(III) complexes containing two, three, or four trialkylphosphine ligands, **1676.**

Goodfellow, Robin J. See **Goggin,** Peter L., **523, 576.**

Gosling, Keith, and **Bowen,** Richard E. Thermal decomposition of primary and secondary amine adducts of triethylaluminium and diethylaluminium halides, **1961.**

Gosling, Keith. See **Bowen,** Richard E., **964.**

Gould, Robert O. See **Fraser,** Alan J. F., **1139.**

Graham, Robert D., and **Williams,** David R. Thermodynamic considerations in co-ordination. Part XVII. Glass and chloride electrode studies of carcinostatic ternary and quaternary complexes of nickel and palladium(II) ions with asparaginate and chloride ligands, **1123.**

Greatrex, Robert. See **Gibb,** Terence C., **1148.**

Green, Brian. Fluorination of dimethylaminopentachlorocyclotriphosphazene, **1113.**

Green, Jennifer C. See **Evans,** Stephen, **304.**

Green, Malcolm L. H., and **Knight,** John. Arene–molybdenum chemistry: a novel redistribution reaction of alkenes on molybdenum forming cationic diene complexes and alkanes, **311.**

Green, Malcolm L. H., **Mitchard,** Leonard C., and **Silverthorn,** William E. Arene–molybdenum chemistry: diprotonation of arenetris(tertiary phosphine)molybdenum compounds, **1361.**

Green, Malcolm L. H., and **Munakata,** Hiro. Oligomerisation of butadiene by use of nickel– or palladium–hydride complexes as catalyst precursors, and related studies, **269.**

Green, Malcolm L. H., and **Silverthorn,** William E. The μ-dinitrogen-bis{[1,2-bis(dimethylphosphino)ethane]-hydrido[η-(1,3,5-trimethylbenzene)]molybdenum} cation, **2164.**

Green, Malcolm L. H. See **Benfield,** Frank W. S., **1244, 1324.**

Green, Michael, and **Parker,** Graham J. Cationic transition-metal complexes. Part V. Synthesis, structure, and dynamic behaviour of bis(π-allyl)-rhodium(III) and -iridium(III) cations, **333**

Green, Michael. See **Bowen,** David H., **1189, Browning,** Jane, **97, Clemens,** John, **93, Davies,** Christopher H., **357, Game,** Colin H., **351, Maples,** Peter K., **1194,** and **Wilson,** Christopher J., **421, 1293.**

Greenwood, Norman N. See **Gibb,** Terence C., **1148.**

Griffith, William P. See **Collin,** Richard J., **1094.**

Griffiths, Graham A. See **Day,** Peter, **1446.**

Griffiths, James E. See **Edwards,** Anthony J., **1129.**

Grove, David M. See **Bowen,** David H., **1189.**

Guainazzi, Mauro. See **Filardo,** Giuseppe, **678.**

Gupta, Kalyan K. Sen, and **Chakladar,** Jiban K. Kinetics of the chromic acid oxidation of arsenic(III), **222.**

Gupta, Kalyan K. Sen, **Pal,** Basanta B., and **Mukherjee,** Dulal C. Kinetics of the vanadium(V) oxidation of phosphorous acid, **226.**

H

Hackett, Paul, and **Manning,** A. R. Reactions of tin(II-halides with hexacarbonylbis(tri-n-butylphosphine)di)cobalt, **2257.**

Hackett, P., **O'Neill,** P. S., and **Manning,** A. R. Structure and reactions of bis[tricarbonyl(π-cyctopentadienyl)-chromium], **1625.**

Haddock, Steve R. See **Goggin,** Peter L., **523.**

Hägele, Gerhard, **Harris,** Robin K., **Wazeer,** Mohamed I. M., and **Keat,** Rodney. A nuclear magnetic resonance study of some bis(phosphinoyl)amines and bis(phosphinothioyl)amines, **1985.**

Hague, David N., and **Kinley,** Keith. Kinetics of ternary complex formation between nickel species and 5-nitrosalicylic acid, **249.**

Hague, David N., and **Martin,** Stephen R. Kinetics of ternary complex formation between manganese(II) species and 2,2′-bipyridine, **254.**

Haigh, Ian. See **Burgess,** John, **1062, 1064.**

Haines, Raymond J. See **Kruger,** Gert J., **1302.**

Hajdu, I. P. See **Vasvári,** G., **465.**

Hambly, Catherine, and **Raynor,** J. Barrie. Electron spin resonance study of adducts of gallium trichloride and digallium hexachloride with the free-radical base, 2,2,6,6-tetramethylpiperidine nitroxide, **604.**

Hamnett, Andrew. See **Burroughs,** Peter, **565.**

Hamor, Thomas A. See **Dodman,** Peter, **1010.**

Hampson, Peter J. See **Allen,** Geoffrey C., **1296.**

Harman, John S. See **Clifford,** Allan F., **571.**

Harries, Hugo J. See **Daniel,** Harry T., **2219.**

Harris, Daniel C., **Rosenberg,** Edward, and **Roberts,** John D. Carbon-13 nuclear magnetic resonance spectra and mechanism of bridge–terminal carbonyl exchange in di-

μ-carbonyl-bis[carbonyl(η-cyclopentadienyl)iron](*Fe–Fe*) [{(η-C_5H_5)Fe(CO)$_2$}$_2$], *cd*-di-μ-carbonyl-*f*-carbonyl-*ae*-di-(η-cyclopentadienyl)-*b*-(triethyl phosphite)di-iron(*Fe–Fe*) [(η-C_5H_5)$_2$Fe$_2$(CO)$_3$P(OEt)$_3$], and some related complexes, 2398.

Harris, Robin K., **Wazeer,** Mohamed I. M., **Schlak,** Ottfried, and **Schmutzler,** Reinhard. Preparative and nuclear magnetic resonance studies of 1,3,2,4-diazadiphosphetidines. Part IV. Methyl- and methoxy-fluorodiazadiphosphetidines, 1912.

Harris, Robin K. See **Hägele,** Gerhard, 1985, and **Schlak,** Ottfried, 2153.

Harrison, Philip G., and **King,** Trevor J. Structural studies in main-group chemistry. Part VII. Crystal structure of *N*-benzoyl-*N*-phenyl-*O*-(triphenylstannyl)hydroxylamine, 2298.

Harrison, Philip G., **King,** Trevor J., and **Richards,** John A. Structural studies in main-group chemistry. Part VI. Crystal and molecular structure of 2,2′-bipyridyldichlorodiphenyltin, 1723.

Hartman, J. Stephen. See **Bula,** Michael J., 725.

Hartwell, George E. See **Curtis,** John L. S., 1898.

Haszeldine, Robert N., **Parish,** R. V. (Dick), and **Taylor,** Richard J. Organosilicon chemistry. Part XII. Stability and catalytic activity of some chlorohydridobis-(phosphine)(silyl)rhodium(III) complexes, 2311.

Haszeldine, Robert N. See **Bevan,** William I., 2305, 2509, and **Coy,** David H., 1852.

Hatfield, William E. See **McGregor,** Kenneth T., 2448.

Hathaway, Brian J. See **Dudley,** Richard J., 1005.

Hay, Robert W., **Clark,** Charles R., and (in part) **Edmonds,** John A. G. Uncatalysed and metal ion-catalysed hydrolysis of 8-quinolyl sulphate, 9.

Hay, Robert W., and **Nolan,** Kevin B. Copper(II)-promoted hydrolysis of ethyl glycylglycinate, ethyl glycyl-β-alaninate, and ethyl glycyl-L-leucinate, 2542.

Hay, Robert W. See **Clark,** Charles R., 2148, and **Nolan,** Kevin B., 914.

Hayes, John W. See **Das,** Manoranjan, 1409.

Healy, James D., **Shaw,** Robert A., **Smith,** Barry C., **Thakur,** Chandramauleshwar P., and **Woods,** Michael. Phosphorus–nitrogen compounds. Part XXXVIII. Reactions of phenylphosphonic dichloride and phenylphosphonothioic dichloride with dibenzylamine, 1286.

Healy, Peter C. See **Gluvchinsky,** Paul, 1156.

Heath, Graham A. See **Chatt,** Joseph, 2074.

Heaton, B. T. See **Bielli,** E., 2133.

Hedwig, Gavin R., and **Powell,** H. Kipton J. Thermodynamic study on oxime complexes: the relative co-ordinating power of ketone, oxime, and amine functional groups, 47.

Hemmings, Raymond T. See **Barker,** Geoffrey K., 450.

Hencher, J. Lawrence. See **Drake,** John E., 595.

Henrick, Kim, and **Wild,** Stanley Bruce. Identification of diastereoisomeric tetracarbonyl[*o*-phenylenebis(methylphenylarsine)]molybdenum complexes by means of ^{1}H and ^{13}C Fourier nuclear magnetic resonance spectroscopy, 2500.

Higginson, Brian R. See **Bassett,** Peter J., 2316.

Higginson, Brian. See **Evans,** Stephen, 304.

Higginson, William C. E. See **James,** Alan D., 1273, and **Thacker,** Michael A., 647.

Higson, Brian M., **Lewton,** Derek A., and **McKenzie,** E. Donald. Stereochemistry of bis(salicylaldiminato)metal(II) compounds. Part I. Bis[*N*-(2,6-dialkylphenyl)salicylideneiminato]nickel(II) compounds and five- and six-co-ordinate pyridine and picoline complexes, 1690.

Hill, M. N. Stuart. See **Blackborow,** J. Richard, 411.

Hill, R. E. E. See **Gillard,** R. D., 1217.

Hitchcock, Peter B., **Lappert,** Michael F., **McLaughlin,** George M., and **Oliver,** Andrew J. Carbene complexes. Part VI. Complexes from imidoyl chloride and rhodium(I) precursors, and the crystal and molecular structure of carbonyltri-iodo-[α-(*N*-methyl-α-methyliminobenzylamino)benzylidene-*N*,*C*]rhodium, $I_3(OC)$-Rh–CPh(NMe)CPh:NMe, 68

Hobson, Richard J. See **Bullock,** Joseph I., 2037.

Hodgson, Peter G., and **Penfold,** Bruce R. Crystal and molecular structure of bis(diethylenetriamine)zinc(II) dibromide monohydrate, 1870.

Hodgson, Peter G. See **Dudley,** Richard J., 1005.

Hoffman, Günter. See **Weigel,** Fritz, 1473.

Hollebone, Bryan R. United atom models for polyatomic ligands. Part IV. Trisubstituted radical and anion derivatives of Group IV, 1889.

Holloway, John H. See **Burgess,** John, 1740, and **Fuggle,** John C., 205.

Holt, Elizabeth M., and **Holt,** Smith L. Studies on sulphur–nitrogen compounds. Part II. Molecular and crystal structure of triphenylphosphine trisulphur tetranitride, 1990.

Holt, Elizabeth M., **Holt,** Smith L., and **Watson,** Kenneth J. Studies on sulphur–nitrogen compounds. Part I. Crystal and molecular structure of bis(diphenylmethylene)trisulphurtetranitride, 1357.

Holt, Smith L. See **Holt,** Elizabeth M., 1357, 1990.

Hooper, Alan J. See **Allen,** Geoffrey C., 1525, and **Barker,** Marten G., 55.

Hooper, Norman E. See **Adams,** Robert W., 1075.

Hopkinson, Michael J. See **Dobbie,** Robert C., 1290.

Horspool, William M., **Iball,** John, **Rafferty,** Monica, and **Scrimgeour,** Sheelagh N. Crystal and molecular structure of α,α,γ-trimethyl-γ-ferrocenyl-1,2-trimethyleneferrocene, 401.

Hoskins, Bernard F., and **Whillans,** Francis D. Crystal and molecular structure of bis(*N*-cyclohexylthiopicolinamidato)copper(II), 2112.

Hoskins, Bernard F. See **Beckett,** Ronald, 622.

Howard, Judith. See **Clark,** Russell, 2027, and **Goddard,** Richard, 2025.

Howarth, Oliver W., **Moore,** Peter, and **Winterton,** Neil. Carbon-13 nuclear magnetic resonance study of metal complexes of ethylenedinitrilo-*NNN′N′*-tetra-acetic acid (H_4edta), 2271.

Howell, James A. S., **Johnson,** Brian F. G., and **Lewis,** Jack. Reactivity of co-ordinated ligands. Part XVII. Heptafulvene complexes of chromium, molybdenum, and tungsten, 293.

Howell, James A. S. See **Edwards,** Robert, 2105.

Hubbard, Colin D. See **Lincoln,** Stephen F., 2513.

Hubberstey, Peter, and **Pulham,** Richard J. Solubility of tin and germanium in liquid sodium: the sodium–tin partial phase diagram, 1541.

Hubert-Pfalzgraf, Lilane G., and **Riess,** Jean G. Preparation and characterisation of some niobium and tantalum pentaalkoxide co-ordination complexes, 585

Hudson, Barry. See **Bingham,** Denis, 1521.

Hughes, Barry. See **Garner,** C. David, 725, 1306.

Hughes, David L., **Phillips,** Simon E. V., and **Truter,** Mary R.

Crystal structure of a complex of potassium iodide with phenacyl kojate: bis(5-phenacyloxy-2-hydroxymethyl-4*H*-pyran-4-one)potassium iodide, 907.

Hunter, Geoffrey, and **Massey,** Robert C. 1,4-Diselenan-tetracarbonyl complexes of chromium, molybdenum, or tungsten: chelate complexes of a cyclic ligand in the boat conformation, 1872.

Hunter, Geoffrey. See **Donaldson,** Ruth., 288.

Hush, Noel S., **Dyke,** John M., **Williams,** Martin L., and **Woolsey,** Ian S. Electronic spectra of metal corrole anions, 395.

Hush, Noel S., and **Woolsey,** Ian S. Optical and electron spin resonance spectra of cobalt complexes related to vitamin B_{12}, 24.

Hussain, Altaf. See **Nabi,** Syed Nurun, 1199.

Hutchison, John L. See **Lincoln,** Frank J., 115.

Hyde, Eileen M. See **Empsall,** H. David, 1980.

Hyde, Michael R., and **Sykes,** A. Geoffrey. Stepwise chromium(II) and vanadium(II) reductions of the μ-amido-μ-superoxo- and μ-amido-μ-peroxo-bis[bis(ethylenediamine)cobalt(III)] complexes, 1550.

Chromium(II) and vanadium(II) reductions of μ-amido-μ-chloro- and μ-amido-μ-bromo-bis[tetra-amminecobalt(III)] complexes, 1583.

I

Iball, John, **Low,** John N., and **Weakley,** Timothy J. R. Heteropolytungstate complexes of the lanthanoid elements. Part III. Crystal structure of sodium decatungstocerate(IV)–water (1/30), 2021.

Iball, John. See **Horspool,** William M., 401.

Ikeda, Sakuji. See **Ito,** Takashi, 1783.

Israeli, Mordecai, **Laing,** David K., and **Pettit,** Leslie D. Complex formation between the hydrogen ion and cobalt(II), nickel(II), copper(II), zinc(II), silver(I), and cadmium(II) ions and 2-substituted pyridines containing unsaturated side chains, 2194.

Ito, Takashi, **Kokubo,** Toshiyuki, **Yamamoto,** Takakazu, **Yamamoto,** Akio, and **Ikeda,** Sakuji. Preparation and characterization of (1—2-η-ethylene)bis[1,2-bis(diphenylphosphino)ethane]molybdenum(0) and bis[1,2-bis(diphenylphosphino)ethane]hydrido(pentane-2,4-dionato)-molybdenum(II), 1783.

J

Jackson, Sally E. See **Evans,** Stephen, 304.

James, Alan D., **Murray,** Robin S., and **Higginson,** William C. E. Iron(II) catalysis in substitution reactions of amminepentacyano- and aquopentacyano-ferrate(III) ions, 1273.

James, Tom A. See **Ainscough,** Eric W., 2384.

Jeans, David B., **Penfield,** John D., and **Day,** Peter. Charge transfer spectra of monosubstituted oxo-ions: low-temperature polarised absorption spectra and magnetic circular dichroism, 1777.

Jeffery, James W. See **Baker,** Roy, W., 229.

Jenkins, H. Donald B. See **Alcock,** Nathaniel W., 1907.

John, Klaus-Peter, **Schmutzler,** Reinhard, and **Sheldrick,** William S. Phosphorus–fluorine chemistry. Part XXXIV. Fluorophosphoranes involving potential intramolecular donor–acceptor interaction. Crystal and molecular structure of the product of the reaction of phosphorus pentafluoride with 2-methyl-8-trimethylsiloxyquinoline. Part XXXVII. Preparation and crystal and molecular structure of the product of the reaction of tetrafluoro(phenyl)phosphorane with 2-methyl-8-trimethylsiloxyquinoline, 1841, 2466.

Johnson, Alan W. See **Çetinkaya,** Engin, 1236.

Johnson, Brian F. G., **Lewis,** Jack, **Jones,** J. David, and **Taylor,** Keith A. Stability of the metal–carbon–halogen system. Part I. The preparation and properties of some platinum(II)–and palladium(II)–vinyl complexes, 34.

Johnson, B. F. G., **Lewis,** J., **McArdle,** P., and **Norton,** J. R. Applications of lanthanoid shift reagents to ^{13}C and ^{1}H nuclear magnetic resonance spectroscopy, 1253.

Johnson, Brian F. G., **Lewis,** Jack, and **Twigg,** Martyn V. Kinetic studies on the reactions of the tricarbonyl-(1—3,6-η-cyclo-octadiene)-iron and -ruthenium complexes with tertiary phosphines and phosphites, 241.

Kinetic studies on the reactions of tricarbonyl(η-cyclo-octa-1,3-diene)-, tricarbonyl(η-cyclohexa-1,3-diene)-, and tricarbonyl(η-cyclohepta-1,3,5-triene)-iron complexes with triphenylphosphine, 2546.

Johnson, Brian F. G., **Lewis,** Jack, and **Yarrow,** Douglas J. Reactivity of co-ordinated ligands. Part XIX. (π-Cyclopentadienyl)rhodium complexes of some cyclic monoterpenoids, 1054.

Johnson, Brian F. G., and **Segal,** John A. Transition-metal nitrosyl compounds. Part IX. The preparation and study of the osmium cation $[OsH_2(CO)(NO)L_2]^+$ (L = triphenyl- or tricyclohexyl-phosphine), 981.

Johnson, Brian F. G. See **Ashley-Smith,** John, 128, **Cherwinski,** Walter J., 1405, **Deeming,** Anthony J., 2093, **Domingos,** Antonio J. P., 145, **Edwards,** Robert, 2105, **Evans,** John, 2368, 2375, **Howell,** James A. S., 293, and **Schrock,** R. R., 951.

Johnson, D. A. Relative stabilities of dipositive and tripositive lanthanoid ions in aqueous solution, 1671.

Johnson, Michael D. See **Dodd,** David, 58.

Jones, Christopher E., **Shaw,** Bernard L., and **Turtle,** Brian L. *O*- and *C*-Metallation of 2-alkoxyphenylphosphines by platinum(II), 992.

Jones, Christopher E. See **Empsall,** H. David, 1980.

Jones, J. David. See **Johnson,** Brian F. G., 34.

Jones, Jacqueline (Miss). See **Collin,** Richard J., 1094.

Jones, Peter, **Prudhoe,** Kenneth, and **Brown,** Stanley B. Equilibrium and kinetic studies of deuteroferrihaem {chloro[dihydrogen-3,7,12,17-tetramethyl-2,18-porphinedipropionato(2−)]iron(III)} dimerization, 911.

Jones, Peter J. See **Alexander,** Lesley E., 81.

Jotham, R. W. See **Fishwick,** J. P. (Mrs.), 125.

Jouany, Claude, **Laurent,** Jean-Pierre, and **Jugie,** Gérard. Competition between different nucleophilic sites belonging to the same Lewis bases. Part I. Aminophosphines towards borane, 1510.

Jovanović, Borjana, **Manojlović-Muir,** Ljubica, and **Muir,** Kenneth W. Compounds containing platinum–carbon bonds. Part III. Crystal and molecular structure of *trans*-chlorobis(dimethylphenylphosphine)(trimethylsilylmethyl)platinum(II), 195.

Jugie, Gérard. See **Jouany,** Claude, 1510.

K

Kaiser, Joachim, **Brauer,** Georg, **Schröder,** Friedrich A., **Taylor,** Ivan F., and **Rasmussen,** Svend E. Preparation

and crystal structure of bis-(2,2′-bipyridyl)copper(II) bis-[dichlorocuprate(I)], 1490.
Kane-Maguire, Leon A. P. See **Al-Kathumi,** Khaliel M., 428, and **Thomas,** Gwyn, 1688.
Kasaoka, Shizuki. See **Funabiki,** Takuzo, 2043.
Kato, Iwao. See **Otsuka,** Sei, 2216.
Keable, H. R., **Kilner,** M., and **Robertson,** E. E. (Mrs.). Organonitrogen groups in metal carbonyl complexes. Part VI. Studies on the synthesis of $(\pi\text{-}C_5H_5)Mo(CO)_2\text{-}N{:}CR_2$ complexes, 639.
Keat, Rodney. Dimethylamino- and methoxy-derivatives of dichlorophosphino(dichlorophosphinyl)methylamine, $Cl_2P{\cdot}NMe{\cdot}P(O)Cl_2$, 876.
Keat, Rodney. See **Bulloch,** Gordon, 2010, 2329, and **Hägele,** Gerhard, 1985.
Keeton, Davie P. See **Yang,** Chen-Hwa, 1089.
Kelly, Raymond L. See **Connelly,** Neil G., 2334.
Kepert, David L. Stereochemistry of five-co-ordination. Part III. Compounds of stoicheiometry bis(unidentate ligand)(tridentate ligand) metal, 612.
Structures of monoadducts of tris(β-diketonato) lanthanoid shift reagents, 617.
Kepert, David L., **Marshall,** Ross E., and **Taylor,** Donald. Oxidation of diamagnetic octa-μ_3-chloro-*octahedro*-hexamolybdenum(II) and -tungsten(II) clusters to paramagnetic dodeca-μ_2-chloro-*octahedro*-hexamolybdenum(3+) and -tungsten(III) clusters, 506.
Kepert, David L. See **Epstein,** Joel M., 1949, and **Maslen,** Edward N., 2128.
Kettle, Sidney F. A. See **Buttery,** Howard J., 2293, and **Fishwick,** J. P. (Mrs.), 125.
Kilner, Melvyn, and **Midcalf,** Christopher. Organonitrogen groups in metal carbonyl complexes. Part VII. Methyleneamino-derivatives of iron carbonyls, 1620.
Kilner, M. See **Keable,** H. R., 639.
King, Trevor J. See **Begley,** Michael J., 1162, **Clare,** Philip, 2071, and **Harrison,** Philip G., 1723, 2298.
Kinley, Keith. See **Hague,** David N., 249.
Knight, John. See **Green,** Malcolm L. H., 311.
Knight, John R. See **Goggin,** Peter L., 523.
Knox, Selby A. R., **Phillips,** Richard P., and **Stone,** F. Gordon A. Hydrocarbon complexes of ruthenium. Part I. Formation of 1,2,3,3a,6a-η-1,4,5,6-tetrahydropentalenyl complexes from organo-silyl- and -germyl-(carbonyl)-ruthenium compounds, 658.
Knox, Selby A. R. See **Szary,** Anne C., 662.
Kokubo, Toshiyuki. See **Ito,** Takashi, 1783.
Kong, Pi-Chang, and **Roundhill,** D. Max. Some new hydrido-complexes of platinum(II) and their reactions with electrophiles, 187.
Kruger, Gert J., **Du Preez,** A. Louis, and **Haines,** Raymond J. Preparation, and crystal and molecular structure of π-cyclopentadienyl-η-(tetraphenylborato)ruthenium(II), 1302.
Kumar, Subod. See **Blackborow,** J. Richard, 411.

L

Lacey, Michael J., **Shannon,** James S., and **Macdonald,** Colin G. Factors influencing the chelate linkage isomerism of some oxime complexes of nickel(II), 1215.
Lagow, Richard J., **Badachhape,** Rammachandra B., **Wood,** James L., and **Margrave,** John L. Some new synthetic approaches to graphite–fluorine chemistry, 1268.
Laing, David K. See **Israeli** Mordecai, 2194.
Laing, Kerry R., **Robinson,** Stephen D., and **Uttley,** Michael F. Complexes of the platinum metals. Part IV. 1,3-Diaryltriazenido derivatives, 1205.
Lal, Dinsukh, and **Westland,** Alan D. Heat of formation of some alkali hexahalogenoniobates(IV) and potassium hexachlorotantalate(IV), 2505.
Lalor, Fergus J. See **Carroll,** W. Eamon, 1430, 1837.
La Monica, Girolamo. See **Beck,** Wolfgang, 298.
Lappert, Michael F., and **Oliver,** Andrew J. Carbene complexes. Part V. Imidoyl chlorides as synthetic reagents, and the preparation of rhodium(III) carbene complexes from rhodium(I) precursors, 65.
Lappert, Michael F. See **Çetinkaya,** Bekir, 1591, 1827, **Çetinkaya,** Engin, 1236, **Doyle,** Michael J., 1494, and **Hitchcock,** Peter B., 68.
Larkworthy, Leslie F. See **Agnew,** Neville H., 272.
Laurence, Gerald S., and **Thornton,** Andrew T. Kinetics of oxidation of transition-metal ions by halogen radical anions. Part IV. The oxidation of vanadium(II) and chromium(II) by di-iodide, dibromide, and dichloride ions generated by pulse radiolysis, 1142.
Laurence, Gerald S. See **Falcinella,** Bruno, 1367.
Laurent, Jean-Pierre. See **Jouany,** Claude, 1510.
Laurie, S. H. See **Gillard,** R. D., 1385.
Lavington, Steven W. See **Brown,** Michael P., 1613.
Lee, Wing-Kai, and **Poon,** Chung-Kwong. Structural and mechanistic studies of co-ordination compounds. Part XI. Preparation and acid hydrolysis of some octahedral cobalt(III) complexes of *meso*-1,4,8,11-tetra-aza-5,5,7,12,-12,14-hexamethylcyclo-tetradecane and -tetradeca-1,7-diene, 2423.
Lee, Wing-Kai. See **Chau,** Wah-Kin, 2419.
Leigh, G. Jeffery. See **Adams,** Robert W., 1075.
Leng-Ward, Graeme. See **Ainscough,** Eric W., 2437.
Leroy, M. J. F. See **Friedt,** J. M., 1374.
Levason, William, and **McAuliffe,** Charles A. Palladium(II), platinum(II), and rhodium(III) complexes of *o*-phenylenebis(diphenylarsine) and (*o*-diphenylarsinophenyl)diphenylphosphine, 2238.
Levason, William. See **Casey,** Sylvia, 886.
Levin, Reuben. See **Apelblat,** Alexander, 1476.
Leviston, Philip G. See **Alcock,** Nathaniel W., 1834.
Lewis, Jack. See **Ashley-Smith,** John, 128, **Cherwinski,** Walter J., 1405, **Domingos,** Antonio J. P., 145, **Deeming,** Anthony J., 2093, **Edwards,** Robert, 2105, **Evans,** John, 2368, 2375, **Johnson,** Brian F. G., 34, 241, 1054, 1253, 2546, **Howell,** James A. S., 293, and **Schrock,** R. R., 951.
Lewton, Derek A. See **Higson,** Brian M., 1690.
Libbey, Edward T., and **Bancroft,** G. Michael. Trimethyl phosphite complexes of iron(II): preparation, characterisation, and Mössbauer spectra, 87.
Lima, Bendix J. C., **David,** Feeya, and **David,** Pazhayirayyathu G. Spectral investigation of the products of reactions of cyanide ion with oxo-bridged binuclear iron(III) complexes of 1,10-phenanthroline and 2,2′-bipyridine, 680.
Lincoln, Frank J., **Hutchison,** John L., and **Anderson,** J. Stuart. Electron microscopy of the niobium oxides. Part II. Multiple phases in the system $Nb_2O_5 + MgF_2$, 115.
Lincoln, Stephen F., and **Hubbard,** Colin D. Dissociation of aqua[tris(2-dimethylaminoethyl)amine-*NN′N″N‴*]-cobalt(II) and its nickel(II) and copper(II) analogues in perchloric acid solution, 2513.

Lincoln, Stephen F. See **West,** Robert John, 281.
Lindoy, Leonard F., **Lip,** Hyacinth C., and **Moody,** Wayne E. Bromination reactions involving nickel and copper complexes of Schiff-base derivatives of acetylacetone, 44.
Lip, Hyacinth C. See **Lindoy,** Leonard F., 44.
Liquornik, Martin. See **Barrer,** Richard M., 2126.
Livingstone, Stanley E. See **Das,** Manoranjan, 1409.
Lloyd, D. Robert. See **Bassett,** Peter J., 2316.
Logan, Norman. See **Addison,** C. Clifford, 1073, 2070.
Loose, David J. See **Dudley,** Richard J., 1005.
Low, John N. See **Iball,** John, 2021.
Ludi, Andrew. See **Buser,** Hans Jorg, 2473.
Lyle, Margaret A. See **Glockling,** Frank, 2537.
Lynaugh, Norman. See **Bassett,** Peter J., 2316.
Lyons, Arthur R. See **Fieldhouse,** Stephen A., 1966.
Lyons, J. R. See **Browning,** I. G., 373.

M

Macdonald, Colin G. See **Lacey,** Michael J., 1215.
Macgregor, Alan C. See **Einstein,** Frederick W. B., 778, 783.
Maddock, Alfred G., **Platt,** Roger H., **Williams,** Alan F., and **Gancedo,** Ramon. Structure and bonding in some simple tungsten compounds. Deductions from tungsten-182 Mössbauer spectra, 1314.
Maddock, Andrea. See **Ashcroft,** Stanley J., 462.
Maitlis, Peter M. See **Moseley,** Keith, 169.
Makar, George K. R., and **Williams,** David R. Thermodynamic considerations in co-ordination. Part XVI. Formation constants for the cyclopentylamine– and cyclohexylamine–proton, cobalt(II), nickel(II), copper(II), and zinc(II) systems, 1121.
Malone, John F. Crystal structure of di-μ-chloro-bis-{chloro[2-(hydroxymethyl)pent-4-enyl]rhodium(III)}–methanol, 1699.
Manassero, Mario. See **Bellon,** Pier L., 897.
Mangia, A. See **Biscarini,** P., 1846.
Mann, Brian E. See **Duff,** James M., 139.
Manning, A. R. See **Hackett,** P., 1625, 2257, **Newman,** Josephine, 2549, and **Thornhill,** D. J., 6.
Manojlović-Muir, Ljubica, and **Muir,** Kenneth W. Stereochemistry of phosphorus compounds. Part I. The crystal and molecular structure of 1,3-di-t-butyl-2-*trans*-4-dichloro-2,4-dioxocyclodiphosphazane, 2395.
Compounds containing platinum–carbon bonds. Part IV. Crystal and molecular structures of *trans*- and *cis*-dichloro(1,3-diphenylimidazolidin-2-ylidene)(triethylphosphine)platinum(II), 2427.
Manojlović-Muir, Ljubica. See **Jovanović,** Borjana, 195.
Manzer, Leo E. Isocyanide, carbene, diethyldithiocarbamate, and cyclo-octa-1,5-diene complexes of platinum(II), 1535.
Maples, Peter K., **Green,** Michael, **Stone,** F. Gordon A., and (in part) **Spencer,** John L. Tin(IV) halide promoted vinyl rearrangement of hexafluorobuta-1,3-diene–platinum complexes, 1194.
Marangoni, Giampaolo. See **Degetto,** Sandro, 1933.
Margrave, John L. See **Lagow,** Richard J., 1268.
Marks, J. A. See **Fishwick,** J. P. (Mrs.), 125.
Marongiu, Giaime. See **Cannas,** Mario, 550, 553, 556, 1278.
Marsden, Colin J. See **Alexander,** Lesley E., 81.
Marshall, Ross E. See **Kepert,** David L., 506.
Martin, Raymond L. Structural theory for non-stoicheiometry. Part I. Defect fluorite-type structures: lanthanoid oxides MO_x with $1{\cdot}7 \leqslant x \leqslant 2{\cdot}0$, 1335.
Martin, Stephen R. See **Hague,** David N., 254.
Maslen, Edward N., **Dewan,** John C., **Kepert,** David L., **Trigwell,** Keith R., and **White,** Alan H. Stereochemistry of the MX_4Y system (M = metal; X = unidentate, Y = bidentate ligand): crystal structure of tetrachloro-[1,2-bis(dimethylarsino)-3,3,4,4-tetrafluorocyclobut-1-ene]rhenium(IV), 2128.
Maslen, Edward N., **Engelhardt,** Lutz M., and **White,** Allan H. *X*-Ray crystal structure of {7,8,15,17,18,20-hexahydrodibenzo[*e*,*m*]pyrazino[2,3-*b*][1,4,8,11]tetra-azacyclotetradecinato(2—)}nickel(II) and of {7,8,15,16,17,18-hexahydrodibenzo[*e*,*m*][1,4,8,11]tetra-azacyclotetradecinato-(2—)}nickel(II), 1799.
Maslen, Edward N., **Raston,** Colin L., and **White,** Allan H. Crystal structure of bis-(2,2′:6′,2″-terpyridyl)cobalt(II) bromide trihydrate, 1803.
Maslen, Edward N. See **Brotherton,** Peter D., 1876.
Mason, Joan. See **Andersson,** Lars-Olov, 202.
Mason, Peter R. See **Dobbie,** Robert C., 2439.
Massey, Robert C. See **Donaldson,** Ruth, 288, and **Hunter,** Geoffrey, 1872.
Masson, M. See **Friedt,** J. M., 1374.
Mather, I. H. See **Dollimore,** L. S., 518.
Matsumoto, Mitsuo. See **Funabiki,** Takuzo, 2043.
Mattia, Carlo. See **Capasso,** Sante, 2228.
Mawby, Roger J. See **Wilson,** Christopher J., 421, 1293.
Mayoh, Bryan, and **Day,** Peter. Charge transfer in mixed valence solids. Part VII. Perturbation calculations of valence delocalization in iron(II,III) cyanides and silicates, 846.
Mays, Martin J., and **Sears,** Paul L. Tin-119 Mössbauer spectra of trichlorotin complexes, 2254.
Mazzarella, Lelio. See **Capasso,** Sante, 2228.
McArdle, P. See **Johnson,** B. F. G., 1253.
McAuley, Alexander. See **Amjad,** Zahid, 2521.
McAuliffe, Charles A., and **Watson,** David G. Metal–olefin complexes. Part II. Some palladium(II) and platinum(II) derivatives of tris(but-3-enyl)arsine containing co-ordinated and unco-ordinated olefinic groups, 1531.
McAuliffe, Charles A. See **Casey,** Sylvia, 886, and **Levason,** William, 2238.
McCaffery, Anthony J. See **Brint,** Paul, 51.
McDonald, John W. See **Newton,** William E., 1044.
McEwen, Gerald K. See **Connor,** Joseph A., 589.
McFadden, Dennis L., and **McPhail,** Andrew T. Crystal and molecular structure of aquomethylbis(dimethylglyoximato)cobalt(III), 363.
McFarlane, William. Studies of platinum(II) complexes by heteronuclear magnetic double resonance, 324.
McFarlane, William, and **Rycroft,** David S. Magnetic double resonance studies of trimethylstannylphosphines and their complexes, 1977.
McGinnety, John A. Structure and bonding in (dimethyl acetylenedicarboxylate)bis(triphenylphosphine)palladium, 1038.
McGregor, Kenneth T., and **Hatfield,** William E. Magnetic susceptibility and electron paramagnetic resonance studies on bis(2,2′-bipyridyl)thioureacopper(II) perchlorate, 2448.
McKellar, John R., and **West,** Bruce O. Electron-transfer reactions between neutral cobalt complexes, 796.
McKenzie, E. Donald. See **Bailey,** Neil A., 1363, **Gibson,** John G., 989, and **Higson,** Brian M., 1690.

McLaughlin, George M. See **Çetinkaya,** Bekir, 1591, **Çetinkaya,** Engin, 1236, **Doyle,** Michael J., 1494, and **Hitchcock,** Peter B., 68.

McLean, Ronald A. N. Electronic spectra of some pentacarbonylhalogenometal complexes and related species, 1568.

McMeeking, John. See **Doyle,** Michael J., 1494.

McPhail, Andrew T., and **Tschang,** Pui-Suen Wong. Distorted dodecahedral co-ordination in the crystal structure of isoquinolinium tetrakis[4,4,4-trifluoro-1-(2-thienyl)-butane-1,3-dionato]cerium(III), 1165.

McPhail, Andrew T. See **McFadden,** Dennis L., 363.

Mehrotra, R. M. See **Mushran,** Sukhdeo Prasad, 1460.

Mentasti, Edoardo, **Pelizzetti,** Ezio, and **Saini,** Guido. Kinetics of reaction of iron(III) ions with ethylenediaminetetra-acetic and carboxymethyliminobis(ethylenenitrilo)-tetra-acetic (diethylenetriaminepenta-acetic) acids in aqueous perchloric acid solution, 1944.

Mentasti, Edoardo. See **Pelizzetti,** Ezio, 721, 1940.

Mercer, Mary. Crystal structure of a dinuclear dinitrogen complex: tetrachloro{chlorotetrakis[dimethyl(phenyl)-phosphine]rhenium(I)}-μ-dinitrogen-methoxymolybdenum(V)–methanol–hydrochloric acid, 1637.

Meyerstein, Dan. See **Cohen,** Haim, 2559.

Midcalf, Christopher. See **Kilner,** Melvyn, 1620.

Middleton, John. See **Bevan,** William I., 2305.

Middleton, Trevor B. See **Emsley,** John, 633.

Milburn, Harry, **Truter,** Mary R., and **Vickery,** Bruce L. Crystal structure of a sodium complex, bis-[*NN'*-ethylenebis(salicylideneiminato)copper(II)]perchloratosodium–*p*-xylene, 841.

Millar, James B. See **Fraser,** George W., 2029.

Miller, Eileen M., and **Shaw,** Bernard L. Kinetic and other studies on oxidative addition reactions of iridium phosphine complexes of the type *trans*-[IrCl(CO)(PMe_2R)$_2$] (R = Ph, *o*-MeO·C_6H_4, or *p*-MeO·C_6H_4), 480.

Millington, Douglas, and **Sowerby,** D. Bryan. Reaction of octakis(dimethylamino)tetraphosphonitrile with antimony trifluoride, 1070.

Millington, Douglas. See **Begley,** Michael J., 1162.

Mills, Owen S. See **Bright,** David, 219.

Mingos, D. Michael P. Molecular orbital calculations for an octahedral cobalt carbonyl cluster complex, $Co_6(CO)_{14}^{4-}$, 133.

Mink, Janos. See **Goggin,** Peter L., 534, 1479.

Mishra, Shuddhodan P. See **Fullam,** Brian W., 2145.

Mitchard, Leonard C. See **Green,** Malcolm L. H., 1361.

Mitchell, P. R. See **Browning,** I. G., 373, and **Gillard,** R. D., 1635.

Mockler, Garry M. See **Gluvchinsky,** Paul, 1156.

Modinos, Anthony, and **Woodward,** Peter. Crystal and molecular structure of 4-[(diethylamino)(t-butylamino)-methylene]-4-(t-butyl isocyanide)-2,2,5,5-tetrakis(trifluoromethyl)-1,3,4-dioxapalladolan: a palladium(II) carbene complex, 2065.

Moody, Wayne E. See **Lindoy,** Leonard F., 44.

Moon, Edward H. See **Evans,** Alwyn G., 2390.

Moore, Peter. See **Buck,** Dorothy M. W., 2082, and **Howarth,** Oliver W., 2271.

Moore, Stanley V., **Owen,** Gari P., **Thomas,** John M., and **Williams,** John O. On the anomalously large electrical conductivity of ammonium perchlorate–ammonia (1/2), 1029.

Moorhouse, Stephen, and **Wilkinson,** Geoffrey. Bis[(trimethylsilyl)methyl]- and bis(neopentyl)-zinc, and tris-[(trimethylsilyl)methyl]aluminium–diethyl ether (1/1); their use as alkylating agents in forming niobium and tantalum alkyls, 2187.

Morpurgo, Giorgio O., and **Mosini,** Valeria. Correlations between spectral parameters of some carbonylbis(dimethylglyoximato)(substituted pyridine)iron(II) complexes, 2233.

Morris, Stephen H. See **Blandamer,** Michael J., 1717.

Morrison, Robert J. See **Burnett,** Michael G., 1663.

Moseley, Keith, and **Maitlis,** Peter M. Acetylenes and noble metal compounds. Part XI. Reactions of dimethyl acetylenedicarboxylate with dibenzylideneacetone–palladium and –platinum complexes: pallada- and platinacyclopentadienes, 169.

Mosini, Valeria. See **Morpurgo,** Giorgio O., 2233.

Moss, John R. See **Bowen,** David H., 1189, and **Game,** Colin H., 351.

Moss, Kenneth C. See **Dixon,** Keith R., 971.

Moss, Ronald. See **Beattie,** Ian R., 1747.

Mowat, Walter. See **Smith,** John, 1742.

Muir, Kenneth W. See **Çetinkaya,** Engin, 1236, **Jovanović,** Borjana, 195, and **Manojlović-Muir,** Ljubica, 2395, 2427.

Mukherjee, Dulal C. See **Gupta,** Kalyan K. Sen, 226.

Munakata, Hiro. See **Green,** Malcolm L. H., 269.

Murati, Ivo. See **Bradić,** Zdravko, 344, and **Reynolds,** Warren L., 719.

Mureinik, Roland J., and **Spiro,** Michael. Heterogeneous catalysis in solution. Part X. Racemisation and reduction by solids of $(+)_{589}$-tris(ethylenediamine)cobalt(III). Part XI. Reduction of tris(ethylenediamine)-cobalt(III) by a carbon black. Part XII. Racemisation of $(+)_{589}$-tris(ethylenediamine)cobalt(III) by a carbon black, and kinetics of reacting systems involving racemisation, 2480, 2486, 2493.

Murray, Keith S. See **Raston,** Colin L., 1793.

Murray, Robin S. Reinvestigation of the reaction between hexacyanoferrate(III) and sulphite ions, 2381.

Murray, Robin S. See **James,** Alan D., 1273, and **Thacker,** Michael A., 647.

Mushran, Sukhdeo Prasad, **Agrawal,** M. C., **Mehrotra,** R. M., and **Sanehi,** R. Kinetics and mechanism of reduction of silver(I) by ascorbic acid, 1460.

N

Nabi, Syed Nurun, **Hussain,** Altaf, and **Ahmed,** Nurun Nahar (Miss). Salt-like behaviour of covalent halides. Part IV. Electrolytic conductance of solutions of thionyl chloride, and its reactions with silver salts and Lewis acids in acetone, 1199.

Nabi, Syed Nurun, and **Shaw,** Robert A. Structure and basicity. Part VIII. Oligomeric dimethylaminocyclophosphazenes, 1618.

Nardelli, Mario. See **Corradi,** Anna Bonamartini, 150.

Nardin, Giorgio. See **Bresciani,** Nevenka, 498, 1606, and **Calligaris,** Mario, 1903.

Natile, Giovanni. See **Annibale,** Giuliano, 802.

Nave, Colin, and **Truter,** Mary R. Crystal structure of the dihydroperchlorate of 1,4,8,11-tetra-azacyclotetradecane (cyclam), 2351.

Nazery, Manije (Miss). See **Cragg,** Richard H., 162, 1438.

Neilson, George W. See **Fieldhouse,** Stephen A., 567.

Newlands, Michael J. See **Coy,** David H., 1852.

Newman, Josephine, and **Manning,** A. R. Polynuclear carbonyl complexes of cobalt containing isocyanides and other ligands, 2549.
Newman, Roger. See **Fenton,** David E., 655.
Newton, M. Gary, **Caughman,** H. Dan, and **Taylor,** R. Craig. Synthesis and solid-state crystal structure of [2-(diphenylphosphinoyl)ethyl]diethylammonium dichlorocuprate(I), containing a discrete $CuCl_2^-$ anion, 258.
Synthesis and molecular structure of an inorganic zwitterion: trichloro{[2-(diphenylphosphinyl)ethyl]dimethylammonium}copper(II), 1031.
Newton, William E., **Corbin,** James L., and **McDonald,** John W. Synthesis and chemistry of some binuclear oxomolybdenum(V) xanthate (*O*-alkyl dithiocarbonate) complexes, 1044.
Nicholls, C. J., and **Urch,** D. S. A study of the bonding in some compounds of aluminium using Al-$K\beta_{1,3}$ *X*-ray emission spectra, 901.
Nicholls, David. See **Adnitt,** Sheila E., 644, and **Anagnostopoulos,** Augustinos, 569.
Nicolić, Ružica M., and **Gal,** Ivan J. Chloride and bromide complexes of zinc(II) and mercury(II) in aqueous ammonium nitrate melts, 985.
Nivellini, G. D. See **Biscarini,** P., 1846, 2140.
Nixon, John F., **Wilkins,** Brian, and (in part) **Clement,** D. Alun. (1—3-η-Allyl)tris(trifluorophosphine)rhodium(I) complexes: syntheses, phosphine-ligand exchange, and an unusual η-allyl isomerisation process, 1993.
Nixon, John F. See **Cairns,** Maxwell A., 2001.
Nolan, Kevin B., and **Hay,** Robert W. Reactions of co-ordinated nitriles. Part I. Reactions of *cis*-(aminoacetonitrile)bis(ethylenediamine)halogenocobalt(III) complexes in aqueous solution, 914.
Nolan, Kevin B. See **Hay,** Robert W., 2542.
Nolte, Magriet J., and **Singleton,** Eric. Crystal structure of *trans*-bis(acetone hydrazone)tetrakis(trimethyl phosphite)ruthenium(II) bis(tetraphenylborate): stabilisation of metal–hydrazone complexes through hydrogen bonding, 2406.
Norton, J. R. See **Johnson,** B. F. G., 1253.

O

Oates, Gerald, and **Winfield,** John M. Trifluoromethyliodine(V) tetrafluoride and related compounds, 119.
Oates, Gerald, **Winfield,** John M., and (in part) **Chambers,** Owen R. Substitution reactions of iodine pentafluoride: preparation and properties of methoxoiodine(V) fluorides, 1380.
Oates, Gerald. See **Berry,** John A., 509.
O'Connor, Charmian J., **Fendler,** Eleanor J., and **Fendler,** Janos H. Catalysis by reversed micelles in non-polar solvents: aquation and electron-transfer reactions of chromium(III) and cobalt(III) complexes in benzene, 625.
Oliver, Andrew J. See **Hitchcock,** Peter B., 68, and **Lappert,** Michael F., 65.
Olsen, Jørgen. See **Fenger,** Jes, 319.
Onak, Thomas, and **Wan,** Emma. ^1H Nuclear magnetic resonance study of the small *closo*-carboranes 1,5-dicarba-*closo*-pentaborane(5), carba-*closo*-hexaborane(7), 1,2-dicarba-*closo*-hexaborane(6), 1,6-dicarba-*closo*-hexaborane(6), and 2,4-dicarba-*closo*-heptaborane(7), 665.
O'Neill, P. S. See **Hackett,** P., 1625.
Orchard, Anthony F. See **Burroughs,** Peter, 565.
Orrell, Keith G. See **Agambar,** Christina A. (Mrs.), 864, **Anstey,** Patrick, 870, 1711, and **Cattermole,** Peter E., 328.
Osborn, Ruth S., and **Rogers,** Donald. Crystal structure of the red form of 2,2′-bipyridyldichloroplatinum(II), 1002.
Osborne, Anthony G. See **Cattermole,** Peter E., 328.
Otsuka, Sei, **Tani,** Kazuhide, **Kato,** Iwao, and **Teranaka,** Osamu. Chiral metal complexes. Part III. Nickel(0) complexes containing the bulky chiral ligand tri[(+)-bornan-2-yl] phosphite, 2216.
Ottaway, Martyn R. See **Gallagher,** Kevin J., 2347.
Owen, Gari P. See **Moore,** Stanley V., 1029.
Owen, John D., and (in part) **Cole-Hamilton,** David J. Metal complexes of sulphur ligands. Part VIII. Crystal and molecular structure of *cis*-bis(diethylphosphinodithioato)bis(dimethylphenylphosphine)ruthenium(II), 1867.
Owen, Yvonne E. See **Eilbeck,** W. John, 2205.

P

Paddock, Norman L. See **Dcugill,** Maryon W., 1022.
Pal, Basanta B. See **Gupta,** Kalyan K. Sen, 226.
Palmer, Barry N., and **Powell,** H. Kipton J. Complex formation between 4,9-diazadodecane-1,12-diamine (spermine) and copper(II) ions and protons in aqueous solution, 2086.
Polyamine complexes with seven-membered chelate rings: complex formation of 3-azaheptane-1,7-diamine, 4-azaoctane-1,8-diamine (spermidine), and 4,9-diazadodecane-1,12-diamine (spermine) with copper(II) and hydrogen ions in aqueous solution, 2089.
Palmer, Michael H. See **Cradock,** Stephen, 1650.
Palmieri, Clotilde Grasselli. See **Corradi,** Anna Bonamartini, 150.
Paoletti, Piero. See **Barbucci,** Rolando, 2403.
Parish, R. V. (Dick). See **Haszeldine,** Robert N., 2311.
Parker, David J. Vibrational spectra of tricarbonyl(π-cyclopentadienyl)manganese, bis[tricarbonyl(π-cyclopentadienyl)molybdenum], and their deuteriated derivatives, 155.
Parker, Graham J. See **Green,** Michael, 333.
Pasquali, Marco. See **Calderazzo,** Fausto, 1102.
Paul, Iain. See **Buttery,** Howard J., 2293.
Pavlović, Dušanka. See **Bradić,** Zdravko, 344.
Payne, S. John. See **Adams,** David M., 407.
Peacock, Raymond D. See **Blandamer,** Michael J., 1084, and **Burgess,** John, 1062, 1064.
Peake, Stephen C., and **Downs,** Anthony J. Infrared spectra, structures, and force constants of the matrix-isolated thiazyl halides ClSN and BrSN, 859.
Pelizzetti, Ezio, **Mentasti,** Edoardo, **Pramauro,** Edmondo, and **Saini,** Guido. Kinetics of reactions of catechol (*o*-dihydroxybenzene) and quinol (*p*-dihydroxybenzene) with oxidizing metal ions present in excess: the reactions with iron(III), vanadium(V), and thallium(III) in aqueous perchloric acid solution, 1940.
Pelizzetti, Ezio, **Mentasti,** Edoardo, and **Saini,** Guido. Kinetics of oxidation of catechol (*o*-dihydroxybenzene) by thallium(III) in aqueous perchlorate media, 721.
Pelizzetti, Ezio. See **Mentasti,** Edoardo, 1944.
Pelizzi, Corrado. See **Corradi,** Anna Bonamartini, 150.
Pelizzi, G. See **Biscarini,** P., 1846.

Peloso, Arnaldo, and **Volponi,** Luciano. Kinetic studies on the interconversion of *mer*-trichloro(*o*-dimethylaminophenyldimethylarsine-*As*)(*o*-dimethylaminophenyldimethylarsine-*NAs*)rhodium(III) and *trans*-dichlorobis(*o*-dimethylaminophenyldimethylarsine-*NAs*)rhodium(III) chloride, 278.
Penfield, John D. See **Jeans,** David B., 1777.
Penfold, Bruce R. See **Hodgson,** Peter G., 1870.
Pereira, Angelo R. See **Birchall,** Thomas, 2157.
Perkins, Peter G. See **Collins,** Anthony J., 960.
Pettifer, Michael E. See **Anagnostopoulos,** Augustinos, 569.
Pettit, Leslie D. See **Israeli,** Mordecai, 2194.
Phillips, Brian A. See **Beattie,** Ian R., 1747.
Phillips, Richard P. See **Knox,** Selby A. R., 658.
Phillips, Simon E. V., and **Truter,** Mary R. Crystal structure of a complex of caesium thiocyanate with phenacylkojate: 5-phenacyl-2-(hydroxymethyl)-4*H*-pyran-4-one–caesium thiocyanate, 2517.
Phillips, Simon E. V. See **Hughes,** David L., 907.
Phipps, D. A. See **Gillard,** R. D., 1385.
Pietropaolo, Rosario. See **Faraone,** Felice, 2262.
Pilbrow, John R. See **Cookson,** David J., 1396.
Pilbrow, M. F. See **Gillard,** R. D., 2320.
Pispisa, Basilio. See **Barteri,** Mario, 543.
Platt, Roger H. See **Maddock,** Alfred G., 1314.
Poë, Anthony, and **Twigg,** Martyn V. Reaction mechanisms of metal–metal bonded carbonyls. Part VIII. Substitution reactions of *cyclo*-tris(tetracarbonylruthenium)-(3*Ru–Ru*), 1860.
Poë, Anthony. See **Basato,** Marino, 456, 607, 1350, 1856.
Poliakoff, Martyn. Infrared spectrum of matrix isolated tricarbonyliron, 210.
Poliakoff, Martyn, and **Turner,** James J. Structure and reactions of matrix-isolated tetracarbonyliron(0), 2276.
Poller, Robert C. See **Abbas,** S. Zaheer, 1769.
Pollock, R. J. Ivan. See **Glockling,** Frank, 2259.
Poon, Chung-Kwong, and **Tong,** Ha-Wai. Structural and mechanistic studies of co-ordination compounds. Part VIII. Preparation, aquation, and base hydrolysis of some *trans*-monosubstituted tetra-aminecobalt(III) cations. Part IX. Acidity and proton-exchange kinetics of some octahedral cobalt(III) amine complexes, 930.
Poon, Chung-Kwong. See **Chau,** Wah-Kin, 2419, and **Lee,** Wing-Kai, 2423.
Porta, Francesca. See **Beck,** Wolfgang, 298.
Porta, Piero. See **Gastaldi,** Leonardo, 1424.
Porte, Andrew L. See **Al-Mowali,** Ali H., 366.
Post, Michael L., and **Trotter,** James. Crystal and molecular structure of cadmium(II) cyanoacetate, 285.
Crystal and molecular structure of cadmium(II) maleate dihydrate, 674.
Crystal structure of polymeric cadmium(II) malonate monohydrate, 1922.
Povey, David C. See **Bullock,** Joseph I., 2037.
Powell, H. Kipton J. Entropy titrations: a reassessment of data for the reaction of the sulphate ion with trivalent lanthanoid ions, 1108.
Powell, H. Kipton J. See **Hedwig,** Gavin R., 47, and **Palmer,** Barry N., 2086, 2089.
Powell, H. Marcus. See **Chui,** Kui M., 1879, 2117.
Power, Peadar C. See **Dudley,** Richard J., 1005.
Pramauro, Edmondo. See **Pelizzetti,** Ezio, 1940.
Price, D. C. See **Gillard,** R. D., 1385.
Pritchard, Martyn. See **Shaw,** Anthony W., 2172.
Prudhoe, Kenneth. See **Jones,** Peter, 911.
Puddephatt, Richard J. See **Brown,** Michael P., 1613, 2457.
Pulham, Richard J. See **Creffield,** Geoffrey K., 2325, and **Hubberstey,** Peter, 1541.

R

Radford, Donald V. See **Das,** Manoranjan, 1409.
Rafferty, Monica. See **Horspool,** William M., 401.
Raman, Chirakal V. See **Bula,** Michael J., 725.
Ramunni, Girolamo. See **Andreocci,** Mario V., 41.
Randaccio, Lucio. See **Bresciani,** Nevenka, 498, 1606, **Brückner,** Sergio, 1017, and **Calligaris,** Mario, 1903.
Rapp, Bernard. See **Drake,** John E., 595.
Rasmussen, Svend E. See **Kaiser,** Joachim, 1490.
Raston, Colin L., and **White,** Allan H. Crystal structure of *cis*-bis-(*N*-isopropyldithiocarbamato)nickel(II), 1790.
Raston, Colin L., **White,** Allan H., **Willis,** Anthony C., and **Murray,** Keith S. Crystal structure of *mer*-tris-(*N*-benzylsalicylaldiminato)manganese(III), 1793.
Raston, Colin L. See **Chandler,** Graham S., 1797, and **Maslen,** Edward N., 1803.
Raynor, J. Barrie. See **Hambly,** Catherine, 604.
Read, Gordon. See **Dudley,** Colin W., 1926.
Redhouse, Alan D. Crystal structure of dicarbonyl(π-cyclopentadienyl)(pentafluorophenylsulphonyl-*S*)iron, 1106.
Reed, Francis J. S. See **Goggin,** Peter L., 523, 576.
Reimann, Rolf H., and **Singleton,** Eric. Reactions of metal carbonyls. Part VI. Formation of cationic carbonyl salts of manganese-(I) and -(II), 808.
Rettig, Michael F. See **Wiger,** George, 2242.
Reynolds, Warren L., **Biruš,** Mladen, and **Ašperger,** Smiljko. Aquation of penta-ammine(dimethyl sulphoxide)cobalt-(III) perchlorate in water–non-aqueous solvent mixtures, 716.
Reynolds, Warren L., **Murati,** Ivo, and **Ašperger,** Smiljko. Anation of penta-ammineaquocobalt(III) by bromide ion in aqueous media, 719.
Ricard, Louis. See **Fischer,** Jean, 941.
Rice, David A. See **Britnell,** David, 2191, and **Fowles,** Gerald W. A., 1080.
Rice, Nevill M. See **Burkin,** A. Richard, 213.
Ricevuto, Vittorio, **Romeo,** Raffaello, and **Trozzi,** Marcello. Kinetics and mechanism of replacement of chloride ion in *trans*-chloro-(*o*-tolyl)bis(triethylphosphine)platinum(II) by substituted pyridine compounds: influence of the basicity and steric hindrance of the pyridines on their reactivity towards the reaction intermediate, 927.
Ricevuto, Vittorio. See **Cusumano,** Matteo, 490, and **Faraone,** Giovanni, 1377.
Richards, John A. See **Harrison,** Philip G., 1723.
Richards, Raymond L. See **Chatt,** Joseph, 2074, 2358, and **Crociani,** Bruno, 693.
Rieber, Wolfram. See **Beck,** Wolfgang, 298.
Riess, Jean G. See **Hubert-Pfalzgral,** Lilane G., 585, and **Santini-Scampucci,** Catherine, 1433.
Ripamonti, Alberto. See **Capasso,** Sante, 2228.
Rix, Colin J. See **Connor,** Joseph A., 589.
Robbins, David J., **Stillman,** Martin J., and **Thomson,** Andrew J. Magnetic circular dichroism spectroscopy of the vanadyl ion, 813.
Roberts, John D. See **Harris,** Daniel C., 2398.
Roberts, Peter J. See **Bassett,** Peter J., 2316.
Robertson, E. E. (Mrs.). See **Keable,** H. R., 639.

Robinson, Stephen D. See **Ainscough,** Eric W., **2384, Couch,** David A., 1309, and **Laing,** Kerry R., 1205.
Rogers, Donald. See **Osborn,** Ruth S., 1002.
Rogers, M. June. See **Burkin,** A. Richard, 213.
Romeo, Raffaello. See **Cusumano,** Matteo, 490, **Faraone,** Giovanni, 1377, and **Ricevuto,** Vittorio, 927.
Ron, Gideon. See **Buser,** Hans Jorg, 2473.
Roper, Warren R. See **Fraser,** Paul J., 102, 760.
Rosenberg, Edward. See **Harris,** Daniel C., 2398.
Rotondo, Enrico. See **Faraone,** Felice, 2262.
Roundhill, D. Max. See **Kong,** Pi-Chang, 187.
Rouschias, George. See **Bedford,** Wendy M., 2531.
Rowbottom, John F., and **Wilkinson,** Geoffrey. Dithiocarbamato- and carbonyldithiocarbamato-complexes of rhenium-(I), -(III), -(IV), and -(V), 684.
Ruddick, John N. R., and **Sams,** John R. Tin-119 Mössbauer spectra of organotin oxines in applied magnetic fields, 470.
Ruiz-Ramirez, Lena, and **Stephenson,** T. Anthony. Reaction of benzyltriphenylphosphonium bicyclo[2.2.1]-hepta-2,5-dienecarbonyltrichlororuthenate(II) with Lewis bases, 1640.
Russell, David R. See **Collins,** Anthony J., 960.
Rycroft, David S. See **McFarlane,** William, 1977.

S

Saini, Guido. See **Mentasti,** Edoardo, 1944, and **Pelizzetti,** Ezio, 721, 1940.
Salah, Omar M. Abu, and **Bruce,** Michael I. Group IB metal chemistry. Part III. Reactions between bromo- and chloro-dicarbonyl-π-cyclopentadienyliron and copper acetylides, 2302.
Salvatori, Tito. See **Calderazzo,** Fausto, 1102.
Sams, John R., and **Scott,** James C. Application of magnetic-perturbation Mössbauer spectroscopy to binuclear complexes with inequivalent iron atoms, 2265.
Sams, John R. See **Ruddick,** John N. R., 470.
Sanehi, R. See **Mushran,** Sukhdeo Prasad, 1460.
Sansoni, Mirella. See **Bellon,** Pier L., 897.
Santini-Scampucci, Catherine, and **Riess,** Jean G. σ-Bonded early transition metal–carbon derivatives. Part II. Methylniobium(v) and methyltantalum(v) oxohalide complexes, 1433.
Santschi, Peter H., and **Schindler,** Paul W. Complex formation in the ternary systems Ca^{II}–H_4SiO_4–H_2O and Mg^{II}–H_4SiO_4–H_2O, 181.
Sanz, Francisco. See **Daly,** John J., 2051, 2388.
Sasaki, Yoichi, and **Sykes,** A. Geoffrey. Formation and dissociation of the ethylenediaminetetra-acetic acid complex of the molybdenum(v) dimer $Mo_2O_4^{2+}$ in aqueous perchloric acid solution, 1468.
Savory, Chris G., and **Wallbridge,** Malcolm G. H. Properties of the *C,C'*-dimethylpentahydro-4,5-dicarba-*nido*-hexaborate(1—) ion, $C_2Me_2B_4H_5^-$, and its reactions with halogen species, 880.
Sbrignadello, Gino. See **Bor,** György, 440.
Scaramuzza, Lucio. See **Bonamico,** Mario, 1258.
Scazzocchio, Marco. See **Andreocci,** Marco V., 41.
Schiebel, Hans-Martin. See **Schlak,** Ottfried, 2153.
Schindler, Paul W. See **Santschi,** Peter H., 181.
Schlak, Ottfried, **Schmutzler,** Reinhard, **Schiebel,** Hans-Martin, **Wazeer,** M. I. M., and **Harris,** Robin K. Phosphorus–fluorine chemistry. Part XXXV. Unsymmetrical 1,3-diaza-2,4-diphosphetidines of zwitterionic structure, 2153.
Schlak, Ottfried. See **Harris,** Robin K., 1912.
Schmidt, jun., William C. See **Bryan,** Robert F., 2337.
Schmutzler, Reinhard. See **Harris,** Robin K., 1912, **John,** Klaus-Peter, 1841, 2466, and **Schlak,** Ottfried, 2153.
Schrock, R. R., **Johnson,** B. F. G., and **Lewis,** J. Reactivity of co-ordinated ligands. Part XVIII. Cationic ruthenium(II) and osmium(II) complexes by electrophilic attack on a π-allyl ligand, 951.
Schröder, Friedrich A. See **Kaiser,** Joachim, 1490.
Scott, James C. See **Sams,** John R., 2265.
Scott, Keith L. Preparation and characterisation of *cis*- and *trans*-tetra-amminebis(sulphito)cobaltate(III) anions and the kinetics of redox decomposition in aqueous acid solution, 1486.
Scott, Keith L. See **Thacker,** Michael A., 647.
Scrimgeour, Sheelagh N. See **Horspool,** William M., 401.
Sears, Paul L. See **Mays,** Martin J., 2254.
Secco, Fernando. See **Celsi,** Stelvio, 793.
Seddon, Kenneth R., and **Upton,** Clive E. E. Infrared and Raman studies of halogenotrimethylplatinum(IV) complexes and related compounds, 2415.
Seddon, Kenneth R. See **Adnitt,** Sheila E., 644, and **Bratt,** Peter J., 2161.
Segal, John A. See **Johnson,** Brian F. G., 981.
Shannon, James S. See **Lacey,** Michael J., 1215.
Sharp, David W. A. See **Fraser,** C. Joy W., 112, and **Fuggle,** John C., 205.
Shaw, Anthony W., **Vosper,** Alan J., and (in part) **Pritchard,** Martyn. Dinitrogen trioxide. Part XII. The liquid dinitrogen trioxide solvent system, 2172.
Shaw, Bernard L. See **Brookes,** P. Rupert, 1702, **Duff,** James M., 139, **Empstall,** H. David, 1980, **Jones,** Christopher E., 992, and **Miller,** Eileen M., 480.
Shaw, Robert A. See **Das,** Sunilkumar, 1610, **Healy,** James D., 1286, and **Nabi,** Syed Nurun, 1618.
Sheldon, John C. See **Addison,** C. Clifford, 999.
Sheldrick, George M. See **Boyd,** Peter D. W., 1097, and **Domingos,** Angela M. (Mrs.), 475, 477.
Sheldrick, William S. Crystal and molecular structure of the adduct phosphorus pentafluoride–pyridine, 1402.
Sheldrick, William S. See **John,** Klaus-Peter, 1841, 2466.
Shenoy, G. K. See **Friedt,** J. M., 1374.
Sheridan, P. S. See **Addison,** A. W., 709.
Sills, Richard J. C. See **Edwards,** Anthony J., 1726.
Silverthorn, William E. See **Green,** Malcolm L. H., 1361, 2164.
Sim, George A. See **Woodhouse,** David I., 1331.
Sime, James G. See **Woodhouse,** David I., 1331.
Simpson, Margaret E. (Mrs.). See **Thacker,** Michael A., 647.
Singleton, Eric. See **Nolte,** Magriet J., 2406, and **Reimann,** Rolf H., 808.
Sinn, Ekk. See **Gluvchinsky,** Paul, 1156.
Skapski, Andrzej C., and **Stephens,** Francis A. *X*-Ray crystal structure of acetatohydridotris(triphenylphosphine)ruthenium(II): a hydrogenation catalyst with a strained octahedral co-ordination, 390.
Skapski, Andrzej C. See **Fletcher,** Steven R., 486.
Skinner, Henry A. See **Virmani,** Yogish., 399.
Smith, Anthony K. See **Bennett,** Martin A., 233.
Smith, Barry C. See **Addison,** C. Clifford, 999, **Das,** Sunilkumar, 1610, and **Healy,** James D., 1286.
Smith, David L. See **Coates,** Geoffrey E., 1737.
Smith, John, **Mowat,** Walter, **Whan,** David A., and **Ebs-**

worth, E. A. V. Organometallic complexes of molybdenum and tungsten as catalyst precursors in the disproportionation of propene, 1742.
Smith, J. David. See **Alaluf,** Edward O., 669.
Smith, K. D. See **Atwood,** J. L., 921.
Smith, Martin A. R. See **Dixon,** Keith R., 971.
Smith, Thomas D. See **Cookson,** David J., 1396.
Smith, William. See **Clack,** Dennis W., 2015.
Sowerby, D. Bryan. See **Begley,** Michael J., 1162, 2527, **Clare,** Philip, 2071, and **Millington,** Douglas, 1070.
Spencer, Alwyn, and **Wilkinson,** Geoffrey. Reactions of μ_3-oxo-triruthenium carboxylates with π-acid ligands, 786.
Spencer, John L. See **Browning,** Jane, 97, and **Maples,** Peter K., 1194.
Spiro, Michael. See **Mureinik,** Roland J., 2480, 2486, 2493.
Spodine, Evgenia. See **Zagal,** Jose, 85.
Squire, Alan. See **Adams,** David M., 558.
Starkie, Haydn C., and **Symons,** Martyn C. R. Unstable intermediates. Part CXLI. Electron spin resonance spectra of various tin and lead centres in their irradiated salts, 731.
Starkie, Haydn C. See **Fieldhouse,** Stephen A., 1966.
Stedman, Geoffrey. See **Al-Mallah,** Khawla, 2469, **Bates,** John C., 246, 2182, and **Davies,** Keith M., 2176.
Stephens, Francis A. See **Skapski,** Andrzej C., 390.
Stephens, Frederick S. Crystal and molecular structure of di-μ-carbonyl-carbonyl(tricarbonylcobalt)-π-indenyliron, 13.
Crystal and molecular structure of di-μ-carbonyl-dicarbonyl(triethylphosphine)cobalt(π-cyclopentadienylnickel), 1067.
Stephens, Frederick S. See **Campbell,** Ian L. C.. 923. and **Davey,** Geoffrey, 698.
Stephenson, T. Anthony, **Switkes,** Ellen S., and (in part) **Armit,** Peter W. New thiocarbonyl complexes of ruthenium, 1134.
Stephenson, T. Anthony. See **Cole-Hamilton,** David J., 739, 754, 1818, and **Ruiz-Ramirez,** Lena, 1640.
Stevens, Shirley C. V. See **Burns,** Rob J., 415.
Stillman, Martin J. See **Robbins,** David J., 813.
Stobart, Stephen R. See **Bradley,** Geraldine F., 264, and **Glockling,** Frank, 2537.
Stone, F. Gordon A. See **Blackmore,** Timothy, 106, **Bowen,** David H., 1189, **Browning,** Jane, 97, **Clemens,** John, 93, **Davies,** Christopher H., 357, **Game,** Colin H., 351, **Fraser,** Paul J., 102, 760, **Knox,** Selby A. R., 658, **Maples,** Peter K., 1194, and **Szary,** Anne C., 662.
Storr, Alan. See **Arduini,** Anita, 503.
Strugnell, Christopher J. See **Burnett,** Michael G., 1663.
Sunder, Walter A. See **Edwards,** Anthony J., 541, 1129.
Switkes, Ellen S. See **Stephenson,** T. Anthony, 1134.
Sykes, A. Geoffrey. See **Edwards,** Julian D., 1561, 2198, **Foong,** Siew-Wan (Miss), 1453, **Hyde,** Michael R., 1550, 1583, **Sasaki,** Yoichi, 1468, **Wieghardt,** Karl, 651, and **Yang,** Chen-Hwa, 1089.
Symon, David A., and **Waddington,** Thomas C. Two new preparative routes to, and ^{57}Fe Mössbauer and infrared spectroscopic measurements on, the salts of μ-halogenobis[(π-cyclopentadienyl)dicarbonyliron(II)] cations, $[(\pi\text{-}C_5H_5)Fe(CO)_2]_2X^+$ (halogeno = chloro, bromo, or iodo), 78.
Symons, Martyn C. R., **West,** Douglas X., and **Wilkinson,** James G. Unstable intermediates. Part CL. Nitrogen dioxide, nitrogen trioxide, and nitrate (2−) in irradiated lead(II) nitrate: electron spin resonance evidence for electron transfer to and from lead(II) ion, 2247.
Symons, Martyn C. R. See **Fieldhouse,** Stephen A., 567, 1966, **Fullam,** Brian W., 1086, 2145, and **Starkie,** Haydn C., 731.
Szary, Anne C., **Knox,** Selby A. R., and **Stone,** F. Gordon A. Hydrocarbon complexes of ruthenium. Part II. Reactions of organo-silyl- and -germyl-(carbonyl)ruthenium complexes with cyclo-octatrienes, 662.

T

Tani, Kazuhide. See **Otsuka,** Sei, 2216.
Tarama, Kimio. See **Funabiki,** Takuzo, 2043.
Tarantelli, Turiddu. Complexes of nickel(II) halides with polymethylenebis(phenylthiourea) compounds, 837.
Tattershall, Bruce W. Pyrolysis of trichloronitrosomethane, 448.
Taylor, Brian F. See **Goggin,** Peter L., 523, and **Goodfellow,** Robin J., 1676.
Taylor, Donald. See **Kepert,** David L., 506.
Taylor, Ivan F. See **Kaiser,** Joachim, 1490.
Taylor, Keith A. See **Aris,** Keith R., 2222, and **Johnson,** Brian F. G., 34.
Taylor, Paul. See **Burgess,** John, 1064.
Taylor, R. Craig. See **Newton,** Gary, 258, 1031.
Taylor, Richard J. See **Haszeldine,** Robert N., 2311.
Tennakoon, Dayananda T. B., **Thomas,** John M., and **Tricker,** Michael J. Surface and intercalate chemistry of layered silicates. Part II. An iron-57 Mössbauer study of the role of lattice-substituted iron in the benzidine blue reaction of montmorillonite, 2211.
Tennakoon, Dayananda T. B., **Thomas,** John M., **Tricker,** Michael J., and (in part) **Williams,** John O. Surface and intercalate chemistry of layered silicates. Part I. General introduction and the uptake of benzidine and related organic molecules by montmorillonite, 2207.
Tennent, Norman H. See **Bulloch,** Gordon, 2329, and **Cross,** Ronald J., 1444.
Teranaka, Osamu. See **Otsuka,** Sei, 2216.
Thacker, Michael A., **Scott,** Keith L., **Simpson,** Margaret E. (Mrs.), **Murray,** Robin S., and **Higginson,** William C. E. Redox composition of *trans*-tetra-ammineaquosulphitocobalt(III) in aqueous solution, 647.
Thackeray, J. R. See **Bond,** A. M., 773.
Thakur, Chandramauleshwar P. See **Healy,** James D., 1286.
Theyson, Thomas W. See **Burlitch,** James M., 828.
Thomas, Gwyn, and **Kane-Maguire,** Leon A. P. Kinetics of aquation of *trans*-dichlorobis(1,3-diaminopropane)cobalt(III) chloride in mixed aqueous solvents, 1688.
Thomas, John M. See **Moore,** Stanley V., 1029, and **Tennakoon,** Dayananda T. B., 2207, 2211.
Thomson, Andrew J. See **Gardiner,** Maureen, 820, and **Robbins,** David J., 813.
Thornhill, D. J., and **Manning,** A. R. Tautomeric equilibria in solutions of $\{LCo(CO)_3\}_2$ complexes (L = tertiary phosphine, arsine, or stibine), 6.
Thornton, Andrew T. See **Laurence,** Gerald S., 1142.
Tillott, R. Jonathan. See **Begley,** Michael J., 2527.
Tipping, Anthony E. See **Bevan,** William I., 2305, and **Coy,** David H., 1852.
Tipping, L. R. H. See **Addison,** A. W., 709.
Toch, Peter L. See **Allen,** Christopher W., 1685.

Toledano, Paul. See **Fischer, Jean, 941.**
Tomlinson, Anthony A. G., and **Furlani,** Claudio. Complexes with sulphur and selenium donor ligands. **Part III.** The electronic spectrum of bis(dimethylphosphorodithioato)-2,9-dimethylphenanthrolinenickel(II), **1420.**
Tomlinson, Anthony A. G. See **Gastaldi,** Leonardo, **1424.**
Tong, David A. See **Fuggle,** John C., 205.
Tong, Ha-Wai. See **Poon,** Chung-Kwong, 930.
Tong, Shiu-Bor. See **Bottomley,** Frank, 2344.
Tricker, Michael J. See **Tennakoon,** Dayananda T. B., 2207, 2211.
Trigwell, Keith R. See **Maslen,** Edward N., 2128.
Trooster, Jan M. See **De Vries,** Joop L. K. F., 1771.
Trotter, James. See **Calhoun,** Harry P., 377, 382, 386, and **Post,** Michael L., 285, 674, 1922.
Troup, Jan M. See **Cotton,** F. Albert, 800.
Trozzi, Marcello. See **Cusumano,** Matteo, 490, **Faraone,** Giovanni, 1377, and **Ricevuto,** Vittorio, 927.
Trumble, William R. See **Adams,** David M., 690.
Truter, Mary R. See **Belford,** Rosemary R., 17, **Hughes,** David L., 907, **Milburn,** Harry, 841, **Nave,** Colin, 2351, and **Phillips,** Simon E. V., 2517.
Tschang, Pui-Suen Wong. See **McPhail,** Andrew T., 1165.
Tuck, Dennis G. See **Contreras,** J. Guillermo, 1249.
Tucker, Philip M. See **Allen,** Geoffrey C., 1296, 1525.
Turner, James J. See **Poliakoff,** Martyn, 2276.
Turner, Keith. See **Çetinkaya,** Bekir, 1591.
Turtle, Brian L. See **Duff,** James M., 139, and **Jones,** Christopher E., 992.
Twigg, Martyn V. See **Burgess,** John, 2032, **Johnson,** Brian F. G., 241, 2546, and **Poë,** Anthony, 1860.

U

Ullah, Shafi S. See **Deeming,** Anthony J., 2093.
Underhill, Mark. See **Deeming,** Antony J., 1415.
Upton, Clive E. E. See **Brown,** Michael P., 1613, 2457, and **Seddon,** Kenneth R., 2415.
Urch, D. S. See **Nicholls,** C. J., 901.
Uttley, Michael F. See **Laing,** Kerry R., 1205.

V

Vacca, Alberto. See **Barbucci,** Rolando, 2363.
Van Schalkwyk, Gysbert J. See **Alexander,** Lesley E., 81.
Vasile, Michael J. See **Edwards,** Anthony J., 1129.
Vasvári, G., Hajdu, I. P., and **Gál,** D. Thermal decomposition and autoxidation of cobalt acetylacetonates, 465.
Venturini, Marcella. See **Celsi,** Stelvio, 793.
Vickery, Bruce L. See **Milburn,** Harry, 841.
Virmani, Yogish, **Barnes,** David S., and **Skinner,** Henry A. Enthalpies of formation of molybdenum and tungsten tri-iodides, 399.
Viswanathan, Krishnamoorthy. Crystal structure of sodium tetratungstate, $Na_2W_4O_{13}$, 2170.
Volponi, Luciano. See **Peloso,** Arnaldo, 278.
Vosper, Alan J. See **Shaw,** Anthony W., 2172.

W

Waddington, Thomas C. See **Symon,** David A., 78.
Wakerley, Malcolm W. See **Bagnall,** Kenneth W., 889.
Walker, Geoffrey W. See **Chandler,** Graham S., 1797.
Walker, Marjorie D., and **Williams,** David R. Thermodynamic considerations in co-ordination. Part XVIII. Formation constants for cadmium(II)–amino-acid complexes as determined by glass and solid-state cadmium-electrode potentiometry, 1186.
Walker, Peter J. C. See **Dudley,** Colin W., 1926.
Wallbridge, Malcolm G. H. See **Savory,** Chris G., 880.
Wan, Emma. See **Onak,** Thomas, 665.
Wardell, James L. See **Clarke,** Peter L., 190.
Waters, Joyce M. See **Bear,** Cedric A., 1059.
Waters, T. Neil. See **Bear,** Cedric A., 1059.
Watson, David G. See **McAuliffe,** Charles A., 1531.
Watson, Kenneth J. See **Holt,** Elizabeth M., 1357.
Watt, Robert. See **Evans,** John, 2368.
Wazeer, Mohammed I. M. See **Hägele,** Gerhard, 1985, **Harris,** Robin K., 1912, and **Schlak,** Ottfried, 2153.
Weakley, Timothy J. R. See **Iball,** John, 2021.
Webb, Geoffrey. See **Fraser,** C. Joy W., 112.
Webster, David E. See **Bingham,** Denis, 1514, 1519.
Webster, Michael. See **Collins,** Paul H., 1545.
Wege, Dieter. See **Brotherton,** Peter D., 1876.
Weick, C. F. See **Gillard,** R. D., 1385, 1635.
Weigel, Fritz, **Hoffman,** Günter, **Wishnevsky,** Victor, and **Brown,** David. The vapour pressure of protactinium pentabromide, 1473.
Wells, Peter B. See **Bingham,** Denis, 1514, 1519, 1521.
West, Bruce O. See **McKellar,** John R., 796.
West, Douglas X. See **Symons,** Martyn C. R., 2247.
West, Martin S. See **Eilbeck,** W. John, 2205.
West, Robert John, and **Lincoln,** Stephen F. Nitrogen-14 magnetic resonance study of the exchange of acetonitrile on copper(II) complexes, 281.
Westland, Alan D. See **Lal,** Dinsukh, 2505.
Whan, David A. See **Smith,** John, 1742.
Wheatley, Peter J. See **Clegg,** William, 424, 511, and **Field,** John S., 74, 702.
Whillans, Francis D. See **Hoskins,** Bernard F., 2112.
White, Allan H. See **Brotherton,** Peter D., 1876, 2341, **Chandler,** Graham S., 1797, **Epstein,** Joel M., 436, 1949, 1954, **Maslen,** Edward N., 1799, 1803, 2128, and **Raston,** Colin L., 1790, 1793.
Wieghardt, Karl, and **Sykes,** A. Geoffrey. The Cr^{2+} and V^{2+} reduction of μ-carboxylato-dicobalt(III) ammine complexes. Part III. The mechanism of reduction of μ-benzoato- and μ-*o*-chlorobenzoato-complexes, 651.
Wieghardt, Karl. See **Edwards,** Julian D., 2198.
Wiger, George, **Albelo,** Gilbert, and **Rettig,** Michael F. Reactions of palladium(II) halides with 7-methylenebicyclo-[2.2.1]hept-2-ene derivatives; unique *trans*-halogenopalladation of the exocyclic double bond, 2242.
Wild, Robert K. See **Allen,** Geoffrey C., 493.
Wild, S. Bruce. See **Epstein,** Joel M., 436.
Wild, Stanley. See **Henrick,** Kim, 2500.
Wilkins, Brian. See **Nixon,** John F., 1993.
Wilkins, John D. See **Drew,** Michael G. B., 198, 1579, 1654, 1973, and **Fowles,** Gerald W. A., 1080.
Wilkinson, Geoffrey. See **Evans,** I. Philip, 946, **Rowbottom,** John F., 684, **Moorhouse,** Stephen, 2187, and **Spencer,** Alwyn, 786.
Wilkinson, James G. See **Symons,** Martyn C. R., 2247.
Williams, Alan F. See **Maddock,** Alfred G., 1314.
Williams, David R. See **Baxter,** Allan C., 1117, **Cape,** J. Neil, 1849, **Graham,** Robert D., 1123, **Makar,** George K. R., 1121, and **Walker,** Marjorie D., 1186.

Williams, John K. See **Emsley,** John, 633.
Williams, John O. See **Moore,** Stanley V., 1029, and **Tennakoon,** Dayananda T. B., 2207.
Williams, Martin L. See **Hush,** Noel S., 395.
Williams, Robert J. P. See **Barry,** C. David, 1765, and **Dobson,** Christopher M., 1762.
Willis, Anthony C. See **Brotherton,** Peter D., 2341, **Epstein,** Joel M., 436, 1954, and **Raston,** Colin L., 1793.
Wilson, Christopher J., **Green,** Michael, and **Mawby,** Roger J. Preparation and reactions of alkyl carbonyl complexes of platinum(II), 421.
Conversion of methyl carbonyl complexes of platinum(II) into acetyl derivatives: a kinetic study, 1293.
Winfield, John M. See **Berry,** John A., 509, **Fraser,** C. Joy W., 112, **Fuggle,** John C., 205, and **Oates,** Gerald, 119, 1380.
Wingfield, Jonathan N. See **Ainscough,** Eric W., 2384, and **Couch,** David A., 1309.
Winterton, Neil. See **Howarth,** Oliver W., 2271.
Wishnevsky, Victor. See **Weigel,** Fritz, 1473.
Wood, David J. See **Barker,** Marten G., 55.
Wood, James L. See **Lagow,** Richard J., 1268.
Woodhouse, David I., **Sim,** George A., and **Sime,** James G. Metal–carbonyl and metal–nitrosyl complexes. Part XV. Crystal and molecular structure of (3-formyl-*N*-ethoxycarbonylazepine)tricarbonyliron(0), 1331.
Woods, Michael. See **Healy,** James D., 1286.
Woodward, Peter. See **Clark,** Russell, 2027, **Goddard,** Richard, 2025, and **Modinos,** Anthony, 2065.
Woolsey, Ian S. See **Hush,** Noel S., 24, 395.
Wormald, John. See **Churchill,** Melvyn Rowen, 2410.
Worthington, James M. See **Bailey,** Neil A., 1363.
Wyatt, Michael. See **Evans,** Dennis F., 765.

X

Xavier, Antonio V. See **Barry,** C. David, 1765, and **Dobson,** Christopher M., 1762.

Y

Yamamoto, Akio. See **Ito,** Takashi, 1783.
Yamamoto, Takakazu. See **Ito,** Takashi, 1783.
Yang, Chen-Hwa, **Keeton,** David P., and **Sykes,** A. Geoffrey. Factors affecting the addition of sulphur dioxide and nitric oxide to μ-peroxo-dicobalt(III) complexes and the reactions with μ-superoxo-complexes, 1089.
Yang, Chen-Hwa. See **Edwards,** Julian D., 1561.
Yaniuk, Darryl W. See **Cooper,** Mervyn K., 1282.
Yarrow, Douglas J. See **Evans,** John, 2375, and **Johnson,** Brian F. G., 1054.
Yin, Candido Choo, and **Deeming,** Antony J. Metallation of aniline by reaction with dodecacarbonyltriosmium, 1013.

Z

Zagal, Jose, **Spodine,** Evgenia, and **Zamudio,** Walter. Oxidation of bis(phenanthroline)copper(I) complexes by molecular oxygen in nitromethane solution, 85.
Zamudio, Walter. See **Zagal,** Jose, 85.

INDEX OF SUBJECTS, 1974

A

Acetylenes and noble metal compounds. Part XI. Reactions of dimethyl acetylenedicarboxylate with dibenzylideneacetone–palladium and –platinum complexes: pallada- and platina-cyclopentadienes, **169**.

Alkyl, alkynyl, and olefin complexes of bis(π-cyclopentadienyl)-molybdenum and -tungsten, a reversible metal–ring transfer of an ethyl group, **1324**.

Aluminium anodes, electrolytic behaviour of 1,2-dichloroethane–ethylene mixtures, **678**.

pyrazolyl derivatives, **503**.

Al-$K\beta_{1,3}$ *X*-ray emission spectra in study of bonding of some aluminium compounds, **901**.

Separation and identification of some stereoisomers of cyclodi-μ-t-butylamido-di(ethylbromoaluminium). Spectral studies of their interconversion in solution and the similar behaviour of some related compounds, **964**.

Thermal decomposition of primary and secondary amine adducts of triethylaluminium and diethylaluminium halides, **1961**.

–vanadium complex obtained on mixing dichlorobis(η-cyclopentadienyl)vanadium with ethylaluminium dichloride, **2390**.

Ammonia exchange during the base hydrolysis of chloropenta-amminecobalt(III) ion in concentrated aqueous ammonia, **373**.

Ammonium perchlorate–ammonia (1/2), anomalously large electrical conductivity, **1029**.

Anation of penta-ammineaquocobalt(III) by bromide ion in aqueous media, **719**.

Antiferromagnetism in transition-metal complexes. Part VI. Low-lying excited states of dinuclear copper(II) complexes with bridging multidentate Schiff's base groups and some related compounds, **125**.

Antimonate. Fluoride crystal structures. Part XXII. Chloryl μ-fluoro-bis[pentafluoroantimonate(v)], **1726**.

Antimony. Crystal structure of bis-μ-[dicarbonyl(π-cyclopentadienyl)ferriochloro]-bis{[dicarbonyl(π-cyclopentadienyl)ferriochloro]trichloroantimony}, **778**.

-121 Mössbauer spectroscopy of some cyanide adducts of antimony pentachloride, **1374**.

Solubility of sodium hexahydroxoantimonate in water and in mixed aqueous solvents, **1084**.

trifluoride, reaction with octakis(dimethylamino)tetraphosphonitrile, **1070**.

Apatite, single-crystal vibrational spectrum, **1505**.

Aquation of penta-ammine(dimethyl sulphoxide)cobalt(III) perchlorate in water–non-aqueous solvent mixtures, **716**.

Arene–molybdenum chemistry: a novel redistribution reaction of alkenes on molybdenum forming cationic diene complexes and alkanes, **311**.

ruthenium(II) complexes formed by dehydrogenation of cyclohexadienes with ruthenium(III) trichloride, **233**.

Arsenic. Crystal structure of octaphenylcyclotetra-arsazene, **2527**.

-(III), kinetics of the oxidation by chromic acid, **222**.

Association shift of water; temperature dependence of proton chemical shifts in aqueous silver salts, **175**.

Auger spectroscopy of uranium, **493**.

Autoxidation and thermal decomposition of cobalt acetylacetonates, **465**.

B

Bacterial resolution of some cobalt(III) amine complexes, **518**.

Beryl, single-crystal vibrational spectrum, **1502**.

Beryllium. Addition of organoberyllium hydrides to some cyanides, **1737**.

Alkali-metal alkylberyllium alkoxides, **1729**.

Alkoxyberyllium tetrahydroborates: t-butoxyberyllium pentane-2,4-dionate and complexes of t-butoxyberyllium oxide, **1440**.

alkyls, reactions with carbonyl and azomethine groups: addition, reduction, complex formation and *ortho*-metallation, **1171**.

Ion-exchange evidence for the polynuclear ion tris[hydroxoberyllium(II)], **1282**.

σ-Bonded early transition metal–carbon derivatives. Part II. Methylniobium(v) and methyltantalum(v) oxohalide complexes, **1433**.

organotransition metal ions. Part XV. Preparation and fluorine-19 n.m.r. spectra of some monomeric anionic, cyanide-bridged dimeric anionic, and related fluorobenzylcobalt(III) complexes, **58**.

Borane. Aminophosphines towards borane: competition between different nucleophilic sites belonging to the same Lewis bases. Part I, **1510**.

Boron derivatives of *o*-hydroxybenzyl alcohol, **162**.

halides, adducts with nitrogen donors, exchange reactions, **411**.

^{1}H N.m.r. study of some small *closo*-carboranes, **665**.

Properties of the *C,C'*-dimethylpentahydro-4,5-dicarba-*nido*-hexaborate(1−) ion, $C_2Me_2B_4H_5^-$, and its reactions with halogen species, **880**.

Synthesis and properties of some 2-substituted 1,3,2-oxathiaborinans, **1438**.

trihalide (mixed) adducts. An n.m.r. study of donor site and halogen redistribution in boron trihalide adducts of methyl acetate and its sulphur analogues, **725**.

trihalides, phosphine adducts, vibrational spectra, **595**.

Bromination reactions involving nickel and copper complexes of Schiff-base derivatives of acetylacetone, **44**.

C

Cadmium amino-acid complexes, formation constants, **1186**.

Crystal structure of μ-[di-(2-methoxyethyl)ethercadmio]-bis(pentacarbonylmanganese)(2*Cd–Mn*), **424**.

of tetrakis(1,8-naphthyridine)cadmium(II) bis(perchlorate), **1949**.

Cadmium (*contd.*)
of μ-[2,2′-bipyridylcadmium]- and μ-[1,10-phenanthrolinecadmium]-bis(pentacarbonylmanganese)(*2Cd–Mn*), 511.
-(II) cyanoacetate, crystal and molecular structure, 285.
hexacyanopalladate(IV), crystal structure, 2473.
-(II) maleate dihydrate, crystal and molecular structure, 674.
malonate monohydrate, crystal structure, 1922.
Caesium thiocyanate–5-phenacyl-2-(hydroxymethyl)-4*H*-pyran-4-one, crystal structure, 2517.
Calcium hexafluoroacetylacetonate complexes with nitrogen containing ligands, 655.
ion, orthosilicic acid, water ternary system, complex formation, 181.
Carbene chemistry. Part IV. Carbene intermediates in pyrolyses of trifluoro(polyfluoroethyl)silanes, trichloro(polyfluoroethyl)silanes, and trichloro(trichloromethyl)silane, 2509.
complexes. Part V. Imidoyl chlorides as synthetic reagents, and the preparation of rhodium(III) carbene complexes from rhodium(I) precursors, 65. Part VI. Complexes from imidoyl chloride and rhodium(I) precursors, and the crystal and molecular structure of carbonyltri-iodo-[α-(*N*-methyl-α-methyliminobenzylamino)benzylidene-*N*,*C*]rhodium, 68. Part VII. Chloromethyleneammonium chlorides. Electron-rich carbenoids as precursors to secondary carbene metal complexes, 1591. Part VIII. Chromium(0), iron(0), rhodium(I), iridium(I), nickel(II), palladium(II), platinum(II), and gold(I) mono- and oligo-carbene species from electron-rich olefins, 1827.
complexes of iridium, rhodium, manganese, chromium, and iron containing thiazolidinylidene and pyridinylidene ligands, 760.
Carbon compounds of the transition metals. Part XXVIII. Crystal structure of bromotricarbonyl(phenyl isocyanide)-manganese(I), 219.
Carbonyl anions, metal, sodium salts of, reactions with divinyltin bistrifluoroacetate, 1306.
penta-, halogenometal complexes, electronic spectra, 1568.
Carbonyls, metal, reaction with oxygen, 567.
Carboranes, some small *closo*-carboranes, ^{1}H n.m.r. study, 665.
Catalysis by reversed micelles in non-polar solvents: aquation and electron-transfer reactions of chromium(III) and cobalt(III) complexes in benzene, 625.
Catalytic reduction of hydrogen ions in solution in the presence of vitamin B_{12a} and buffer acids, 2475.
Cationic cyclic carbene complexes of iridium(III), nickel(II), palladium(II), and platinum(II), 102.
transition-metal complexes. Part V. Synthesis, structure, and dynamic behaviour of bis(π-allyl)-rhodium(III) and -iridium(III) cations, 333.
Cerium. Crystal structure of isoquinolinium tetrakis[4,4,4-trifluoro-1-(2-thienyl)butane-1,3-dionato]cerium(III), 1165.
of sodium decatungstocerate(IV)–water (1/30), 2021.
-(IV) ion oxidation of malic acid in perchlorate media, 2521.
reaction with lithium nitride, 2166.
Characterisation of the synthetic zeolite (Na, Me_4N)-V, 405.
Charge transfer in mixed valence solids. Part VII. Perturbation calculations of valence delocalisation in iron(II,III) cyanides and silicates, 846.
spectra of mono-substituted oxo-ions: low-temperature polarised absorption spectra and magnetic circular dichroism, 1777.
of post-transition-metal halide complexes, 1446.
Chemical shift, proton, in aqueous silver salts, temperature dependence. The association shift of water, 175.
Chemistry of the metal carbonyls. Part LXVIII. Complexes of manganese, iron, and ruthenium containing the cyclic carbene 2-oxacyclopentylidene, 351. Part LXIX. Synthesis and reactions of complexes of manganese containing the substituted and unsubstituted 2,5-dioxacyclopentylidene ligand, 1189.
Chiral metal complexes. Part III. Nickel(0) complexes containing the bulky chiral ligand tri[(+)-bornan-2-yl] phosphite, 2216.
Chromium carbonyl complexes and 1,2-bis(isopropylseleno)-ethane, a conformational study of a chelated selenium ligand, 288.
-(III) complexes, aquation and electron-transfer reactions in benzene, 625.
Crystal and molecular structure of nonamethylcyclotetraphosphonitrilium pentacarbonyliodochromate(0), 377.
of tetracarbonyl(7,7-dimethoxynorborn-2-ene)chromium(0), 1876.
Crystal structure of polymeric tris(trimethyltin) chromate hydroxide, 477.
Dicarbonylnitrosylchromium complexes of methylbenzenes and methylcyclohexadienyls, 2334.
1,4-diselenantetracarbonyl complex, 1872.
heptafulvene complexes, 293.
-(II) oxidation by halogen radical anions, 1142.
oxide tetrafluoride and chromium dioxide difluoride, new preparations, 541.
-(I) and penta-aquahydridochromium(III) in aqueous perchlorate solutions, kinetics and spectra, a pulse-radiolysis study, 2559.
Single-crystal Raman study of the vibrations of the tricarbonylchromium unit in benzenetricarbonylchromium and tricarbonyl(1,3-dimethylbenzene)-chromium, 2293.
-(II) stepwise reduction of the μ-amido-μ-superoxo- and μ-amido-μ-peroxo-bis[bis(ethylenediamine)cobalt-(III)] complexes, 1550.
Structure and reactions of bis[tricarbonyl(π-cyclopentadienyl)chromium], 1625.
tricarbonyl monosubstituted-π-arene complexes, vibrational spectra, 558.
-(II) and vanadium(II) reductions of μ-amido-μ-chloro- and μ-amido-μ-bromo-bis[tetra-amminecobalt(III)] complexes, 1583.
Circular dichroism studies on the interactions between tris-(L-alaninato)cobalt(III) complexes and basic polyelectrolytes in solution, 543.
Cobalt acetylacetonates, thermal decomposition and autoxidation, 465.
(η-Allyl)tris(trifluorophosphine)cobalt(I) complexes, 2001.
Ammonia exchange during the base hydrolysis of chloropenta-amminecobalt(III) ion in concentrated aqueous ammonia, 373.
Anation of penta-ammineaquocobalt(III) by bromide ion in aqueous media, 719.
Aquation of penta-ammine(dimethyl sulphoxide)cobalt-(III) perchlorate in water–non-aqueous solvent mixtures, 716.

Cobalt (*contd.*)
Bacterial resolution of bis(ethylenediamine)1,10-phenanthrolinecobalt(III) chloride, 2,2′-bipyridylbis(ethylenediamine)cobalt(III) chloride, and potassium (ethylenediaminetetra-acetato)cobaltate(III), 518.
carbonyl complexes, polynuclear, containing isocyanides and other ligands, 2549.
Catalytic reduction of hydrogen ions in solution in the presence of vitamin B_{12a} and buffer acids, 2475.
-(II) chelate complexes of 1-substituted butane-1,3-diones, and dissociation constants and stabilities in aqueous dioxan (50% v/v), 2219.
Chromium(II) and vanadium(II) reductions of μ-amido-μ-chloro- and μ-amido-μ-bromo-bis[tetra-amminecobalt(III)] complexes, 1583.
-(II) complex of pentane-2,4-dithione, crystal structure, 622.
-(III) complexes, aquation and electron-transfer reactions in benzene, 625.
Crystal and molecular structure of *trans*-chlorobis(dimethylglyoximato)(triphenylphosphine)cobalt(III) and *trans*-chlorobis(dimethylglyoximato)(ammine)-cobalt(III) monohydrate, 1017.
complexes related to vitamin B_{12}, optical and electron spin resonance spectra, 24.
Tautomeric equilibria in solutions of $\{LCo(CO)_3\}_2$ complexes (L = tertiary phosphine, arsine, or stibine), 6.
-(III) complexes of 1,4,8,11-tetra-azacyclotetradecane and *meso*-1,4,8,11-tetra-aza-5,5,7,12,12,14-hexamethylcyclotetradecane, steric effects in aquation, 2419.
Convenient resolution of the (ethylenediaminetetra-acetato)cobaltate(III) ion, 1635.
Crystal and molecular structure of aquo-*NN′*-ethylenebis(3-methoxysalicylideneiminato)cobalt(II), 1903.
of aquomethylbis(dimethylglyoximato)cobalt(III), 363.
of the bis(tetramethylammonium) octa-μ_3-carbonyl-hexacarbonyl-*octahedro*-dinickeltetracobaltate(2−), 432.
of [*NN′*-butylenebis(salicylideneiminato)]pyridinecobalt(II), 498.
of di-μ-carbonyl-carbonyl[dicarbonyl(methyldiphenylphosphine)cobaltio]-π-cyclopentadienyliron, 698.
of di-μ-carbonyl-carbonyl(tricarbonylcobalt)-π-indenyliron, 13.
of di-μ-carbonyl-dicarbonyl(triethylphosphine)cobalt(π-cyclopentadienylnickel), 1067.
of dimethyl[3,3′-(trimethylenedinitrilo)bis(butan-2-one oximato)]cobalt(III), 1628.
Crystal structure of a helical binuclear cobalt(II) cation, 1097.
of bis-(2,2′:6′,2″-terpyridyl)cobalt(II) bromide trihydrate, 1803.
of {[2-(diphenylphosphino)ethyl]diphenylphosphine oxide}iodonitrosylcobalt(0), 74.
cyclopentadienylperfluoroalkyl complexes, ^1H and ^{19}F n.m.r. spectral evidence for restricted rotation, 415.
Dissociation of aqua[tris(2-dimethylaminoethyl)amine-*NN′N″N‴*]cobalt(II) in perchloric acid solution, 2513.
Electron-transfer reactions between neutral cobalt complexes, 796.
Equilibrium and kinetic studies on hydroxo-bridge cleavage reactions of two triply-bridged dicobalt(III) complexes in aqueous perchloric acid solutions, 2198.
Factors affecting the addition of sulphur dioxide and nitric oxide to μ-peroxo-dicobalt(III) complexes and the reactions with μ-superoxo-complexes, 1089.
-(II) halides and pseudohalides, complexes with 2- and 4-vinylpyridines, 272.
-(II) ions, reaction with thallium(II), 1367.
-57–iron-57 electron capture reaction in $Cd_3[^{57}Co(CN)_6]_2$,-$12H_2O$; temperature-dependent after-effects, 319.
electron capture reaction in cobalt-57-doped tricadmium bis[hexacyanoferrate(III)] dodecahydrate, 2309.
Kinetic studies on the reaction of bromide with the μ-amido-μ-hydroxo-bis[tetra-amminecobalt(III)] complex, 1453.
Kinetic study of the reaction of diphenylacetylene with hexacarbonylbis(tri-n-butylphosphine)dicobalt, 607.
Kinetics and mechanisms of the reduction of dioxygen-bridged complexes by sulphite, nitrite, and arsenite, 1561.
of acid and base hydrolysis of azido[(*RR*)-1,11-diamino-3,6,9-triazaundecane]cobalt(III), 1264.
of aquation of *trans*-dichlorobis(1,3-diaminopropane)-cobalt(III) chloride in mixed aqueous solvents, 1688.
The mechanism of reduction of μ-benzoato- and μ-*o*-chlorobenzoato-dicobalt(III) ammine complexes, 651.
Molecular orbital calculations for an octahedral carbonyl cluster complex, $Co_6(CO)_{14}^{4-}$, 133.
Nuclear magnetic resonance studies of cobalt(II) complexes in solution, 870.
octaethylporphin derivatives, new reactions, 1236.
-(III) octahedral complexes of *meso*-1,4,8,11-tetra-aza-5,5,7,12,12,14-hexamethylcyclo-tetradecane and -tetradeca-1,7-diene, 2423.
Preparation, vibrational and electronic spectral properties of cobalt(II) and nickel(II) complexes, 864.
-(II)-promoted hydrolysis of 2-cyano-8-hydroxyquinoline, 2148.
Protonation of (η-cyclo-octatetraene)(η-cyclopentadienyl)cobalt(I), 2375.
Reaction of alkynes with μ-carbonyl-μ-diphenylgermaniobis(tricarbonylcobalt)(*Co–Co*), 1856.
of μ-carbonyl-μ-diphenylgermanediyl-bis(tricarbonylcobalt) with carbon monoxide, triphenylphosphine, and tri-n-butylphosphine, 1350.
of co-ordinated nitriles. Part I. Reactions of *cis*-(aminoacetonitrile)bis(ethylenediamine)halogeno-cobalt(III) complexes in aqueous solution, 914.
of octacarbonyldicobalt with organo-silanes, -germanes, and -stannanes, 264.
of tricarbonyl(π-allylic)cobalt complexes with bis(trifluoromethyl)diazomethane, 93.
of tin(II) halides with hexacarbonylbis(tri-n-butylphosphine)dicobalt, 2257.
Redox decomposition of *trans*-tetra-ammineaquosulphitocobalt(III) in aqueous solution, 647.
Reduction and racemisation of tris(ethylenediamine)-cobalt(III), heterogeneous catalysis by solids, 2480, 2486, 2493.
–Schiff-base complexes, reversible oxygenation, steric effects, 1606.
-(III). Some monomeric anionic, cyanide-bridged dimeric anionic, and related fluorobenzylcobalt(III) complexes; preparation and fluorine-19 n.m.r. spectra, 58.

Cobalt (*contd.*)
trans-monosubstituted tetra-amine cations; preparation, aquation, and base hydrolysis, 1.
Stepwise chromium(II) and vanadium(II) reductions of the μ-amido-μ-superoxo- and μ-amido-μ-peroxo-bis[bis(ethylenediamine)cobalt(III)] complexes, 1550.
Structural and mechanistic studies of co-ordination compounds. Part IX. Acidity and proton-exchange kinetics of some octahedral cobalt(III) amine complexes, 930.
Substitution reaction of μ-diphenylacetylene-bis(tetracarbonylcobalt) with tri-n-butylphosphine, 456.
Superexchange in some binuclear cobalt(II) complexes, 852.
Theoretical treatment of spin-density distributions in nuclear magnetic resonance spectra of cobalt(II) complexes, 1711.
Thermodynamic parameters for acid dissociation of aquocobalamin, 2205.
-(III) tris(alaninato) complexes, interactions with basic polyelectrolytes, circular dichroism studies, 543.
Cobaltate(II) cyano complexes, hydrogenation of conjugated dienes, 2043.
Preparation and characterisation of *cis*- and *trans*-tetraamminebis(sulphito)cobaltate(III) anions and the kinetics of redox decomposition in aqueous acid solution, 1486.
Copper acetylides, reactions with bromo- and chloro-dicarbonyl-π-cyclopentadienyl iron, 2302.
binuclear triketonate complex, crystal structure and magnetic properties, 2554.
Bis(2,2′-bipyridyl)thioureacopper(II) perchlorate, magnetic susceptibility and e.p.r. studies, 2448.
-(II), bis-(1,1,1,5,5,5-hexafluoropentane-2,4-dionato)-, reactions with pyrazine and the crystal structures of the 1 : 1 and 2 : 1 complexes, 17.
-(I) bis(phenanthroline) complexes, oxidation by molecular oxygen in nitromethane solution, 85.
-(II) chelate complexes of 1-substituted butane-1,3-diones, and dissociation constants and stabilities in aqueous dioxan (50% v/v), 2219.
-(II) complexes, nitrogen-14 n.m.r. study of the exchange of acetonitrile, 281.
complexes of Schiff-base derivatives of acetylacetone, bromination reactions, 44.
-(II) compounds with ligands formed by the diaminoethane–butanone reaction, 347.
Crystal and molecular structure of bis(*N*-cyclohexylthiopicolinamidato)copper(II), 2112.
of di-μ-chloro-bis{chloro[*NN*′-ethylenebis(salicylideneiminato)copper(II)]copper(II)}, 1059.
of di-μ-chloro-bis{[1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne]copper(I)}, 2027.
of 1,5-dihydrodecamethylcyclopentaphosphonitrilium tetrachlorocuprate(II) monohydrate, 382.
Crystal structure and synthesis of [2-(diphenylphosphinoyl)ethyl]diethylammonium dichlorocuprate(I), 258.
of bis-(1,3-diaminopropane)isothiocyanatocopper(II) perchlorate, 550.
of [di-(2-aminoethyl)amine]di-isothiocyanatocopper(II), 553.
of di-(3-aminopropyl)aminebis(isothiocyanato)copper(II), 1278.
of di-μ-thiocyanato-bis[di-(2-aminoethyl)amine]dicopper(II) diperchlorate, 556.
of a linear polymeric 1 : 1 adduct of copper(I) chloride and 2,3-diazabicyclo[2.2.1]hept-2-ene, 1797.
Dissociation of aqua[tris(2-dimethylaminoethyl)amine-*NN′N″N‴*] copper(II) in perchloric acid solution, 2513.
-(II) ions, protons and 4,9-diazadodecane-1,12-diamine, complex formation in aqueous solution, 2086, 2089.
Ligand arrangement and tetragonal distortion in CuO_4N_2 chromophores studied by electronic and e.s.r. spectroscopy, 1319.
-(II). Low-lying excited states of dinuclear complexes with bridging multidentate Schiff's base groups, antiferromagnetism, 125.
Magnetic, spectroscopic, and structural properties of bis-[bromo-, chloro-, and nitrato-(*N*-n-butyl-5-chloro-α-phenyl-2-hydroxybenzylidene)aminato-μ-*O*-copper(II)], 1156.
nitrates, extraction by methyl diphenyl phosphate, 1476.
-(II) α-nitroketonates, complexes with sterically hindered *N*-bases, ligand arrangement, 2442.
-(II) polyamine complexes with seven-membered chelate rings, 2089.
Preparation and crystal structure of bis-(2,2′-bipyridyl)-copper(II) bis[dichlorocuprate(I)], 1490.
-(II)-promoted hydrolysis of ethyl glycylglycinate, ethyl glycyl-β-alaninate, and ethyl glycyl-L-leucinate, 2542.
-(II), reactions with thiazolidine-2-thiones, 1708.
-(II) Schiff-base complexes, crystal structures, 1954.
-(II) six- and four-co-ordinate complexes with nitrogen bases and substituted phenols as ligands, 2037.
Synthesis and molecular structure of an inorganic zwitterion: trichloro{[2-(diphenylphosphinyl)ethyl]dimethylammonium}copper(II), 1031.
-(II) trigonal bipyramidal complexes, single-crystal electronic and e.s.r. spectra, 1005.
Crystal and molecular structure of the adduct phosphorus pentafluoride–pyridine, 1402.
of aquo-*NN′*-ethylenebis(3-methoxysalicylideneiminato)-cobalt(II), 1903.
of aquomethylbis(dimethylglyoximato)cobalt(III), 363.
of 2,2′-bipyridyldichlorodiphenyltin, 1723.
of bis(*N*-cyclohexylthiopicolinamidato)copper(II), 2112.
of bis(diethylenetriamine)zinc(II) dibromide monohydrate, 1870.
of *cis*-bis(diethylphosphinodithioato)bis(dimethylphenylphosphine)ruthenium(II), 1867.
of bis(diphenylmethylene)trisulphurtetranitride, 1357.
of 1,3-bis(2-iminobenzylideneimino)propanenickel(II), 1363.
of the bis(tetramethylammonium) octa-μ_3-carbonyl-hexacarbonyl-*octahedro*-dinickeltetracobaltate(2−), 432.
of [*NN′*-butylenebis(salicylideneiminato)]pyridinecobalt(II), 498.
of cadmium(II) cyanoacetate, 285.
maleate dihydrate, 674.
of carbonyltri-iodo-[α-(*N*-methyl-α-methyliminobenzylamino)benzylidene-*N*,*C*]rhodium, 68.
of carbonyltris(*NN*-diethyldithiocarbamato)rhenium(III): a complex of seven-co-ordinate rhenium, 486.
of *trans*-chlorobis(dimethylglyoximato)(triphenylphosphine)cobalt(III) and *trans*-chlorobis(dimethylglyoximato)(ammine)cobalt(III) monohydrate, 1017.

Crystal and molecular structure (*contd.*)
of *trans*-chlorobis(dimethylphenylphosphine)(trimethylsilylmethyl)platinum(II), 195.
of chloro[*N*,*N*′-di-(3-aminopropyl)piperazine]nickel(II) chloride, 989.
of the *meso*-form of *NN*′-cyclohexylenebis(salicylideneiminato)cobalt(II), 1606.
of π-cyclopentadienyl-η-(tetraphenylborato)ruthenium(II), 1302.
of dibromotris(5-ethyl-5*H*-dibenzophosphole)palladium(II)–chlorobenzene, –bromobenzene, and dibromotris(5-methyl-5*H*-dibenzophosphole)platinum(II)–bromobenzene, 1879.
of dibromotris(2-phenylisophosphindoline)palladium(II) (red), and of its orange acetone adduct, 2117.
of 1,3-di-t-butyl-2-*trans*-4-dichloro-2,4-dioxocyclodiphosphazane, 2395.
of di-μ-carbonyl-carbonyl[carbonyl(2,3-dimethylbuta-1,3-diene)cobalt](π-methylcyclopentadienyl)iron, 923.
of di-μ-carbonyl-carbonyl[dicarbonyl(methyldiphenylphosphine)cobaltio]-π-cyclopentadienyliron, 698.
of di-μ-carbonyl-carbonyl(tricarbonylcobalt)-π-indenyliron, 13.
of 1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne, 2025.
of di-μ-carbonyl-dicarbonyl(triethylphosphine)cobalt(π-cyclopentadienylnickel), 1067.
of di-μ-chloro-bis{[1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne]copper(I)}, 2027.
of dichlorobis(*NN*-dicyclohexylacetamidinato)methyltantalum(V), 1973.
of *trans*-dichlorobis(*N*-methylsalicylaldiminato)molybdenum(IV), 184.
of *trans*- and *cis*-dichloro(1,3-diphenylimidazolidin-2-ylidene)(triethylphosphine)platinum(II), 2427.
of dichloro-(4-methoxyphenyldi-imide-C^2,*N*′)bis(triphenylphosphine)iridium–chloroform(1/1), 897.
of 4-[(diethylamino)(t-butylamino)methylene]-4-(t-butyl isocyanide)-2,2,5,5-tetrakis(trifluoromethyl)-1,3,4-dioxapalladolan, a palladium(II) carbene complex, 2065.
of 1,5-dihydrodecamethylcyclopentaphosphonitrilium tetrachlorocuprate(II) monohydrate, 382.
of *trans*-di-iodobis(tricyclohexylphosphine)platinum(II), an overcrowded molecule, 1834.
of (*NN*-dimethylbenzylamine-2*C*,*N*)(*N*-phenylsalicylaldiminato)palladium(II), 1632.
of dimeric dimethyltin nitrate hydroxide [di-μ-hydroxo-bis(dimethylnitratotin)], 475.
of dimethyl[3,3′-(trimethylenedinitrilo)bis(butan-2-one oximato)]cobalt(III), 1628.
of dioxo(pyridine)bis(tropolonato)uranium(VI), 1933.
of dodecamethoxycyclohexaphosphazane: non-bonded interactions and conformation, 1022.
of (3-formyl-*N*-ethoxycarbonylazepine)tricarbonyliron(0), 1331.
of hexakisantipyrineyttrium tri-iodide, 229.
of [iminobis(ethyleneoxy)]diphenylsilane, a five-co-ordinate silicon compound, 2051.
of nonacarbonyl-μ-(1,2,3,4-tetraphenylbutadiene-1,4-diyl)-*triangulo*-triosmium, 1813.
of nonamethylcyclotetraphosphonitrilium pentacarbonyliodochromate($\bar{0}$), 377.
of 2-phenyl-1-phosphanaphthalene, 2388.
of the product of the reaction of phosphorus pentafluoride with 2-methyl-8-trimethylsiloxyquinoline, 1841.
of tetrafluoro(phenyl)phosphorane with 2-methyl-8-trimethylsiloxyquinoline, 2466.
reinvestigation, of penta-amminenitrosylruthenium trichloride hydrate and *trans*-tetra-amminehydroxonitrosylruthenium dichloride, 1600.
of *trans*-Rh[N:C$(CF_3)_2$][C$(NMeCH_2)_2$]$(PPh_3)_2$, 1494.
of tetracarbonyl(7,7-dimethoxynorborn-2-ene)chromium(0), 1876.
of tetrakis(phenyldithioacetato)vanadium(IV) and tetrakis(dithiobenzoato)vanadium(IV), 1258.
of tetramethylammonium carbidohexadecacarbonylhexaferrate(2−), an iron cluster complex with an encapsulated six-co-ordinate carbon atom, 2410.
of the tetranuclear copper complex di-μ-chloro-bis{chloro-[*NN*′-ethylenebis(salicylideneiminato)copper(II)]-copper(II)}, 1059.
of tetraphenylarsonium aquotetrachlorohydroxotellurate(IV), 1545.
of tetraphenylcyclotetraphosphine monosulphide, 386.
of thiocarbonylbis(triphenylphosphine)rutheniumtri-μ-chloro-chlorobis(triphenylphosphine)ruthenium, 1139.
of tricarbonyl(decafluorocyclohepta-1,3-dienyl)iron, 1010.
of tricarbonyliodotris(dimethylphenylphosphino)tungsten(II) tetraphenylborate, 1654.
of trichlorobis(*NN*′-di-isopropylacetamidinato)tantalum(V), 1579.
of trichlorobis-(*N*-methylthioacetamido)niobium(V), 198.
of trichloro(dimethylaminomethylene)bis(triethylphosphine)rhodium(III), 1591.
of trichlorotris(tetrahydrofuran)scandium(III), 921.
of α,α,γ-trimethyl-γ-ferrocenyl-1,2-trimethyleneferrocene, 401.
of triphenylphosphine trisulphur tetranitride, 1990.
Crystal structure of acetatohydridotris(triphenylphosphine)-ruthenium(II): a hydrogenation catalyst with a strained octahedral co-ordination, 390.
of *N*-benzoyl-*N*-phenyl-*O*-(triphenylstannyl)hydroxylamine, 2298.
of μ-[2,2′-bipyridylcadmium]-bis(pentacarbonylmanganese)(2*Cd*–*Mn*) and μ-[1,10-phenanthrolinecadmium]-bis(pentacarbonylmanganese)(2*Cd*–*Mn*), 511.
of *trans*-bis(acetone hydrazone)tetrakis(trimethyl phosphite)ruthenium(II) bis(tetraphenylborate), stabilisation through hydrogen bonding, 2406.
of bis-(2,2′-bipyridyl)copper(II) bis[dichlorocuprate(I)], 1490.
of bis[heptanetrionato(2−)]bispyridinedicopper(II), 2554.
of *cis*-bis-(*N*-isopropyldithiocarbamato)nickel(II), 1790.
of bis(2-methoxy-4-nitrophenolato)bis(pyridine)copper(II), 2037.
of bis-(2,2′:6′,2″-terpyridyl)cobalt(II) bromide trihydrate, 1803.
of bromotricarbonylbis(phenyl isocyanide)manganese(I), 219.
of cadmium hexacyanopalladate(IV), 2473.
of *trans*-carbonyl(*p*-chlorophenyl)bis(triethylphosphine)-platinum(II) hexafluorophosphate, 702.
of the cobalt(II) and nickel(II) complexes of pentane-2,4-dithione, 622.
of a complex of caesium thiocyanate with phenacylkojate, 2517.
of potassium iodide with phenacyl kojate: bis(5-phenacyloxy-2-hydroxymethyl-4*H*-pyran-4-one)potassium iodide, 907.

Crystal Structure (*contd.*)
of the 1 : 1 and 2 : 1 complexes of bis-(1,1,1,5,5,5-hexafluoropentane-2,4-dionato)copper(II) with pyrazine, 17.
of the cyclic compound formed by the thermal dehydration of 1-hydroxyethylidenediphosphonic acid, 960.
of di-(3-aminopropyl)aminebis(isothiocyanato)copper(II), 1278.
of dicarbonyl(π-cyclopentadienyl)(pentafluorophenylsulphonyl-*S*) iron, 1106.
of di-μ-chloro-bis{chloro[2-(hydroxymethyl)pent-4-enyl]rhodium(III)}–methanol, 1699.
of di-μ-chloro-dichlorobis(methyl pyrrolidine-1-carbodithioate)dimercury(II), 2341.
of 2,*trans*-6-dichloro-2,4,4,6,8,8-hexakis(dimethylamino)-cyclotetraphosphazatetraene, 705.
of dihydroperchlorate of 1,4,8,11-tetra-azacyclotetradecane (cyclam), 2351.
of μ-[di-(2-methoxyethyl)ethercadmio]-bis(pentacarbonylmanganese)(*2Cd–Mn*), 424.
of μ-(dimethylarsino)-μ-[3,3,4,4-tetrafluoro-2-(dimethylarsino)cyclobut-1-enyl(*As,C*)]-bistetracarbonylmanganese, 783.
of a dinuclear dinitrogen complex: tetrachloro{chlorotetrakis[dimethyl(phenyl)phosphine]rhenium(I)}-μ-dinitrogen-methoxymolybdenum(V)–methanol–hydrochloric acid, 1637.
of [1-(diphenylarsino)-2-(diphenylphosphino)ethane](*O*-methyl phosphorodithioato)nickel(II)–benzene (2/1), 1424.
of {[2-(diphenylphosphino)ethyl]diphenylphosphine oxide}iodonitrosylcobalt(0), 74.
of [2-(diphenylphosphinoyl)ethyl]diethylammonium dichlorocuprate(I), 258.
of {7,8,15,17,18,20-hexahydrodibenzo[*e,m*]pyrazino[2,3-*b*][1,4,8,11]tetra-azacyclotetradecinato(2—)}nickel(II) nd of {7,8,15,16,17,18-hexahydrodibenzo[*e,m*]-[1,4,8,11]tetra-azacyclotetradecinato(2—)}nickel(II), 1799.
of hydrated complexes bis(pyridoxylidene-DL-valinato)-nickel(II) and bis(pyridoxylidene-L-valinato)zinc(II), 2228.
of an iron–antimony molecular complex bis-μ-[dicarbonyl(π-cyclopentadienyl)ferriochloro]-bis{[dicarbonyl(π-cyclopentadienyl)ferriochloro]trichloroantimony}, 778.
of isoquinolinium tetrakis[4,4,4-trifluoro-1-(2-thienyl)butane-1,3-dionato]cerium(III), 1165.
of a linear polymeric 1 : 1 adduct of copper(I) chloride and 2,3-diazabicyclo[2.2.1]hept-2-ene, 1797.
of a novel phosphomolybdate, 941.
of octaethylporphin bis[*cis*-dicarbonyldichlororhodate(I)], 1236.
of octaphenylcyclotetraphosphazene and octaphenylcyclotetra-arsazene, 2527.
of polymeric cadmium(II) malonate monohydrate, 1922.
of polymeric tris(trimethyltin) chromate hydroxide, 477.
of the red form of 2,2′-bipyridyldichloroplatinum(II), 1002.
of a sodium complex, bis-[*N,N′*-ethylenebis(salicylideneiminato)copper(II)]perchloratosodium–*p*-xylene, 841.
of sodium decatungstocerate(IV)–water (1/30), 2021.
of sodium tetratungstate, 2170.
of tetracarbonyl(triphenylstibine)iron, 2337.
of tetrachloro[1,2-bis(dimethylarsino)-3,3,4,4-tetrafluorocyclobut-1-ene]rhenium(IV), 2128.
of 2,*cis*-4,*trans*-6,*trans*-8-tetrachloro-2,4,6,8-tetraphenylcyclotetraphosphazatetraene, 1659.
of tetraethylammonium μ-chloro-*abefh*-pentachloro-μ-nitrosyl-nitrosyldiplatinate(II), 436.
of 1,*trans*-3,*cis*-5,*trans*-7-tetrakis(dimethylamino)-1,3,5,7-tetrafluorotetraphosphonitrile, 1162.
of thiocyanate polyamine copper(II) complexes. Part II. Bis(1,3-diaminopropane)isothiocyanatocopper(II) perchlorate, 550. Part III. [Di(2-aminoethyl)-amine]di-isothiocyanatocopper(II), 553. Part IV. Di-μ-thiocyanato-bis[di(2-aminoethyl)amine]di-copper(II) diperchlorate, 556.
of *cis*-2,4,6-trichloro- and *cis*-2,4,6-tribromo-2,4,6-trifluorocyclotriphosphazene, 2071.
of *mer*-tris-(*N*-benzylsalicylaldiminato)manganese(III), 1793.
of tris-μ-[2,5-di(2-pyridyl)-3,4-diazahexa-2,4-diene]dicobalt(II) di[aquotrichlorozincate(II)] tetrachlorozincate(II) tetrahydrate: a helical binuclear cobalt(II) cation, 1097.
of tris(1,8-naphthyridine)(perchlorato)mercury(II) perchlorate and tetrakis(1,8-naphthyridine)cadmium(II) bis(perchlorate), 1949.
of two trinuclear Schiff-base copper(II) complexes, 1954.
and lattice energy of thallium(I) fluoride, inert-pair distortions, 1907.
and physicochemical properties of a mixed-chelated nickel complex: aquo-{*o*-[(2-pyridylmethylene)amino]benzamide}[2-(2-pyridyl)-1,2,3,4-tetrahydroquinazolin-4-one]nickel(II) dinitrate tetrahydrate, 150.
and spectroscopic properties of mercury(II) halide complexes. Part II. The dimethyl sulphoxide–mercury(II) chloride (2/3) adduct, 1846.

Complex formation in the ternary systems Ca^{II}–H_4SiO_4–H_2O and Mg^{II}–H_4SiO_4–H_2O, 181.

Complexes of 1,2-bis(isopropylseleno)ethane with chromium, molybdenum, and tungsten carbonyl complexes: a conformational study of a chelated selenium ligand by n.m.r., 288.
of thallium(I), lead(II), and calcium hexafluoroacetylacetonates with nitrogen containing ligands, 655.
of 2- and 4-vinylpyridines with cobalt(II) and nickel(II) halides and pseudohalides, 272.

Compounds containing platinum–carbon bonds. Part III. Crystal and molecular structure of *trans*-chlorobis(dimethylphenylphosphine)(trimethylsilylmethyl)platinum(II), 195.

Co-ordinating power, relative, of ketone, oxime, and amine functional groups, a thermodynamic study, 47.

Co-ordination complexes of niobium and tantalum. Part XV. Sulphoxide complexes of oxobis(oxalato)niobates(V), 165.
compounds of indium. Part XXV. Dihalogeno(acetylacetonato)indium(III) complexes, 1249.
of trimethylniobium(V) dichloride and trimethyltantalum(V) dichloride, 1080.

Corrole anions, metal, electronic spectra, 395.

Cyclam. Crystal structure of the dihydroperchlorate of 1,4,8,11-tetra-azacyclotetradecane, 2351.

Cyclopentadienylruthenium phosphine complexes. Part II. Reactions between hydridobis(triphenylphosphine)(π-cyclopentadienyl)ruthenium and acetylenes, 106.

D

Deuteroferrihaem {chloro[dihydrogen-3,7,12,17-tetramethyl-2,18-porphinedipropionato(2—)]iron(III)} dimerization, 911.

Dinitrogen complexes, addition of acids, di-imide and aminoimido complexes, 2074.

trioxide. Part XII. The liquid dinitrogen trioxide solvent system, 2172.

Dioptase, single crystal vibrational spectrum, 1502.

Dioxygenyl fluorometallate salts, syntheses and some properties, 1129.

Dipole-moment measurements on metal chelate complexes. Part I. Dipole-moment and dielectric-relaxation measurements on square-planar and octahedral metal complexes of seven mercapto-β-diketones, 1409.

Distorted dodecahedral co-ordination in the crystal structure of isoquinolinium tetrakis[4,4,4-trifluoro-1-(2-thienyl)-butane-1,3-dionato]cerium(III), 1165.

Ditertiary alkylphosphine derivatives of the Group VI metal carbonyls and their oxidation with iodine, 589.

E

Electrical conductivity, anomalously large, of ammonium perchlorate–ammonia (1/2), 1029.

resistivity of liquid and solid lithium, 2325.

Electrocatalytic hydrogenation of 2-ethylhexanal, 2-ethyl hex-2-enal, acetophenone, benzophenone, butan-2-one, and cyclohexanone, 1787.

Electrolytic behaviour of 1,2-dichloroethane–ethylene mixtures towards aluminium anodes, 678.

conductance of solutions of thionyl chloride, and its reactions with silver salts and Lewis acids in acetone, 1199.

Electron microscopy of the niobium oxides. Part II. Multiple phases in the system $Nb_2O_5 + MgF_2$, 115.

paramagnetic resonance study of dichlorodioxomanganese(VI), MnO_2Cl_2, 366.

E.s.r. and optical spectra of cobalt complexes related to vitamin B_{12}, 24.

spectra of radicals in irradiated organotin compounds, 1966.

of various tin and lead centres in their irradiated salts, 731.

studies of Ziegler-type catalysts. Part I. Characterisation of a vanadium–aluminium complex obtained on mixing dichlorobis(η-cyclopentadienyl)vanadium with ethylaluminium dichloride, 2390.

of adducts of gallium trichloride and digallium hexachloride with the free-radical base, 2,2,6,6-tetramethylpiperidine nitroxide, 604.

of various phosphinyl radicals formed by solid-state radiolysis, 2145.

Electron-transfer reactions between neutral cobalt complexes, 796.

Electronic and e.s.r. spectroscopy study of ligand arrangement and tetragonal distortion in CuO_4N_2 chromophores, 1319.

spectra and magnetic circular dichroism of the uranyl ion. Part II. The effect of reduced symmetry on the spectra, 51.

of metal corrole anions, 395.

of some pentacarbonylhalogenometal complexes and related species, 1568.

Electrophilic nitrosation at sulphur and nitrogen in thiourea, 2469.

Enthalpies of formation of 1 : 1, 1 : 2, and 2 : 1 adducts of xenon difluoride with antimony, niobium, and tantalum pentafluorides, 1740.

of molybdenum and tungsten tri-iodides, 399.

of the pentafluorides and oxide tetrafluorides of molybdenum and tungsten, 1062.

Entropy titrations: a reassessment of data for the reaction of the sulphate ion with trivalent lanthanoid ions, 1108.

Equilibrium and kinetic studies of deuteroferrihaem{chloro-[dihydrogen-3,7,12,17-tetramethyl-2,18-porphinedipropionato(2—)]iron(III)} dimerization, 911.

on hydroxo-bridge cleavage reactions of two triply-bridged dicobalt(III) complexes in aqueous perchloric acid solutions, 2198.

Exchange reactions of adducts of nitrogen donors with boron halides, 411.

of trimethylamine–iodoborane (1/1) with halide and pseudohalide anions, 2161.

F

Factors affecting the addition of sulphur dioxide and nitric oxide to μ-peroxo-dicobalt(III) complexes and the reactions with μ-superoxo-complexes, 1089.

Far-infrared and Raman spectra of crystalline ammonium and alkali-metal trichloromercurate(II) salts and some related compounds, 1180.

spectra of some complex chlorides $M^I_2MCl_6$, 407.

Fast reactions at planar four-co-ordinate complexes. Part I. Nucleophilicity towards palladium(II) complexes, 490.

Five-co-ordination, stereochemistry; compounds of stoicheiometry bis(unidentate ligand)(tridentate ligand)-metal, 612.

Fluoride, acetates, trifluoroacetic and acetic acids, hydrogen bonding, 1125.

Fluorination of dimethylaminopentachlorotriphosphazene, 1113.

Fluorine-18 exchange between carbonyl fluoride and Group I fluorides. Effect of dipolar, aprotic solvents, 112.

–graphite chemistry, some new synthetic approaches, 1268.

Preparation and properties of difluoro(heptafluoroisopropyl)nitrilosulphur, 571.

Substitution reactions of iodine pentafluoride: preparation and properties of methoxoiodine(V) fluorides, 1380.

Formation of the blue trisulphur radical anion S_3^-, in solutions of alkali polysulphides in dimethylformamide, and from elemental sulphur and piperidyl-lithium in hexamethylphosphoramide, 631.

G

Gallium pyrazolyl derivatives, 503.

trichloride and digallium hexachloride, adducts with the free-radical base, 2,2,6,6-tetramethylpiperidine nitroxide, e.s.r. study, 604.

Germanium. Formation, properties, and vibrational spectra of trimethylgermyltetracarbonylcobalt, 264.

Reaction of alkynes with μ-carbonyl-μ-diphenylgermaniobis(tricarbonylcobalt)(*Co–Co*), 1856.

Germanium (*contd.*)
of μ-carbonyl-μ-diphenylgermanediyl-bis(tricarbonylcobalt) with carbon monoxide, triphenylphosphine, and tri-n-butylphosphine, **1350**.
solubility in liquid sodium: the sodium–tin partial phase diagram, **1541**.
vinyl derivatives, **2537**.
Gold. Dialkyl phenylphosphonite and alkyl diphenylphosphinite derivatives, **1309**.
Displacement of chelate ligands from planar four-co-ordinate complexes. Part I. Reactions of some gold(III) complexes of 2,2′-bipyridyl, **802**.
vibrational spectra of tetrahalogenogold(III) anions in solution, **1479**.
Graphite–fluorine chemistry, some new synthetic approaches, **1268**.
Group IV methylseleno-derivatives, hydrides, **450**.
-B organometallic sulphides. Part V. Reactions of lead sulphides with some electrophilic species and mercury compounds. Comparison of the reactions of aryl triorganolead sulphides with those of the other Group IVB sulphides, **190**.
trisubstituted radical and anion derivatives, united atom models, **1889**.
Group VI metal carbonyls, ditertiary alkylphosphine derivatives and their oxidation with iodine, **589**.
interaction with dimethyl(dimethylarsinothio)arsine sulphide, **2437**.
metals, tricarbonyl-(cycloheptatriene) and -(arene) complexes, reaction with acetonitrile, kinetics, **428**.

H

Hafnium, reaction with lithium nitride, **2166**.
Heat of formation of some alkali hexahalogenoniobates(IV) and potassium hexachlorotantalate(IV), **2505**.
Heterogeneous catalysis in solution. Part X. Racemisation and reduction by solids of $(+)_{589}$-tris(ethylenediamine)cobalt(III), **2480**. Part XI. Reduction of tris(ethylenediamine)cobalt(III) by a carbon black, **2486**. Part XII. Racemisation of $(+)_{589}$-tris(ethylenediamine)cobalt(III) by a carbon black, and kinetics of reacting systems involving racemisation, **2493**.
Heteronuclear magnetic double resonance study of platinum(II) complexes, **324**.
Hexahalogeno-anions of second- and third-row transition and non-transition metals, intensity studies on the Raman-active fundamentals. The calculation of parallel and perpendicular bond polarisability derivatives, **1749**.
Homogeneous catalysis of olefin isomerisation. Part IV. The isomerisation of pent-1-ene catalysed by solutions of $IrH(CO)(PPh_3)_3$, $IrHCl_2(PEt_2Ph)_3$, $IrCl(CO)(PPh_3)_2$, $IrCl(O_2)(CO)(PPh_3)_2$, and of $PtHSnCl_3(PPh_3)_2$, **1514**. Part V. Pent-1-ene isomerisation catalysed by solutions of ruthenium complexes; variation of the isomeric composition of pent-2-ene and its attribution to steric factors, **1519**. Part VI. Pent-1-ene isomerisation catalysed by solutions of dodecacarbonyltriiron(0) and of bis(benzonitrile)dichloropalladium(II) in benzene, **1521**.
hydrogenation of buta-1,3-diene and ethylene catalysed by carbonylhydridotris(triphenylphosphine)iridium(I) and by carbonyltrihydridobis(triphenylphosphine)iridium(III), **1663**.
Hydrido-complexes, new, of platinum(II) and their reactions with electrophiles, **187**.
Hydrocarbon complexes of ruthenium. Part I. Formation of 1,2,3,3a,6a-η-1,4,5,6-tetrahydropentalenyl complexes from organo-silyl- and -germyl-(carbonyl)ruthenium compounds, **658**. Part II. Reactions of organo-silyl- and -germyl-(carbonyl)ruthenium complexes with cyclo-octatrienes, **662**.
Hydrogenation of conjugated dienes by cyanocobaltate(II) complexes, **2043**.
Hydrogen bonds, very strong, formed between carboxylic acids and anions: trifluoroacetic and acetic acids with acetates and fluoride, **1125**.
Hydrolysis, uncatalysed and metal ion-catalysed, of 8-quinolyl sulphate, **9**.
Hydrothermal chemistry of silicates. Part XVI. Replacement of aluminium by boron during zeolite growth, **1049**. Part XVII. Reactions in the system $BaO–B_2O_3–SiO_2–H_2O$, **2054**. Part XVIII. Reactions in the system $CaO–B_2O_3–SiO_2–H_2O$, **2060**. Part XIX. A partial study of the system $CaO–B_2O_3–GeO_2–H_2O$, **2123**. Part XX. The question of phosphorus substitution for silicon during zeolite synthesis, **2126**.

I

Indium. Dihalogeno(acetylacetonato)indium(III) complexes, **1249**.
Infrared spectra, structures, and force constants of the matrix-isolated thiazyl halides ClSN and BrSN, **859**.
spectroscopic studies on metal carbonyl compounds. Part XVII. A comparative study of the vibrational spectrum of ditechnetium decacarbonyl and of the decacarbonyls of manganese and rhenium in the C–O stretching region, **440**.
spectrum of matrix isolated tricarbonyliron, **210**.
study, single crystal, of dicarbonyl(acetylacetonato)-rhodium(I), **690**.
Iodine. Preparation of pentafluorophenyliodine(V) tetrafluoride, **509**.
Substitution reactions of iodine pentafluoride: preparation and properties of methoxoiodine(V) fluorides, **1380**.
Trifluoromethyliodine(V) tetrafluoride and related compounds, **119**.
Ion-exchange evidence for the polynuclear ion tris[hydroxoberyllium(II)], **1282**.
Iridate. Electrophilic behaviour of the co-ordinated nitrosyl cation: reactions of pentahalogenonitrosyliridate(1−), **2344**.
Iridium. Catalysis of homogeneous hydrogenation of buta-1,3-diene and ethylene by iridium complexes, **1663**.
-(III), cationic cyclic carbene complexes, **102**.
Crystal and molecular structure of dichloro(4-methoxyphenyldi-imide-C^2,N')bis(triphenylphosphine)iridium–chloroform (1/1), **897**.
Isomerisation of pent-1-ene catalysed by solutions of some iridium complexes, **1514**.
Oxidative additions to bis[1,2-bis(diphenylphosphino)-ethane]- and bis[1,2-bis(diphenylphosphino)ethylene]-(isocyanide)iridium(I) complexes, **2531**.
phosphine complexes, oxidative addition reactions, kinetics, **480**.
Protonation of (η-cyclo-octatetraene)(η-cyclopentadienyl)iridium(I), **2375**.

Iridium (*contd.*)
Some stereochemically non-rigid derivatives of dodecacarbonyltetrairidium, preparation and nuclear magnetic resonance, **328**.
Synthesis, structure, and dynamic behaviour of bis(π-allyl)rhodium(III) cations, **333**.
Tertiary-phosphine and -arsine complexes of iridium(III), **1702**.
Tetra(isocyanide)iridium(I) cations obtained from poly(tricarbonylchloroiridium), **2262**.
Iron. Action of ammonium fluoride solutions on ' iron(III) hydroxide ' gel, **2347**.
(1—3-η-Allyl)dicarbonylnitrosyliron complexes and their σ-, 1-σ, 2—3-η-, and 1—3-η-allyl and but-3-enoyl derivatives with phosphine ligands, **1808**.
Application of magnetic-perturbation Mössbauer spectroscopy to binuclear complexes with inequivalent iron atoms, **2265**.
Aquation of bis(2,2′;6′,2″-terpyridyl)iron(II) in acidic media, kinetics and reaction with cyanide ion, **2032**.
-(I) arenediazo and nitrosyl cations, ligand substitution reactions, **1430**.
benzene-, *m*-fluorobenzene-, *p*-fluorobenzene-diazo-complexes, **1837**.
carbonyl complexes, reaction with some fluorocarbon bisphosphines, **1290**.
methyleneamino-derivatives, **1620**.
Catalysis of pent-1-ene isomerisation by dodecacarbonyltri-iron(0) in benzene, **1521**.
-(II) catalysis in substitution reactions of amminepentacyano- and aquopentacyano-ferrate(III) ions, **1273**.
-57–cobalt-57 electron capture reaction in cobalt-57-doped tricadmium bis[hexacyanoferrate(III)] dodecahydrate, **2309**.
complexes containing the cyclic carbene 2-oxacyclopentylidene, **351**.
Correlations between spectral parameters of some carbonylbis(dimethylglyoximato)(substituted pyridine)iron(II) complexes, **2233**.
Crystal and molecular structure of di-μ-carbonyl-carbonyl[dicarbonyl(methyldiphenylphosphine)cobaltio]-π-cyclopentadienyliron, **698**.
of di-μ-carbonyl-carbonyl[carbonyl-(2,3-dimethylbuta-1,3-diene)cobalt](π-methylcyclopentadienyl)iron, **923**.
of di-μ-carbonyl-carbonyl(tricarbonylcobalt)-π-indenyliron, **13**.
of 1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne, **2025**.
of di-μ-chloro-bis{[1-(dicarbonyl-π-cyclopentadienylferrio)-2-phenylethyne]copper(I)}, **2027**.
of (3-formyl-*N*-ethoxycarbonylazepine)tricarbonyliron(0), **1331**.
of hexanuclear iron cluster complex with an encapsulated six-co-ordinate carbon atom, **2410**.
of tricarbonyl(decafluorocyclohepta-1,3-dienyl)iron, **1010**.
of α,α,γ-trimethyl-γ-ferrocenyl-1,2-trimethyleneferrocene, **401**.
Crystal structure of bis-μ-[dicarbonyl(π-cyclopentadienyl)ferriochloro]-bis{[dicarbonyl(π-cyclopentadienyl)ferriochloro]trichloroantimony}, **778**.
of dicarbonyl(π-cyclopentadienyl)(pentafluorophenylsulphonyl-*S*) iron, **1106**.
of tetracarbonyl(triphenylstibine)iron, **2337**.
cyclohexa-, cycloheptа-, and cyclo-octa-dienylium complexes, ligand substitution and nucleophilic reactivity, **2105**.
cyclo-octadiene complexes, **2093**.
Effects of added salts on kinetics of aquation of tris(5-nitro-1,10-phenanthroline)iron(II), **1717**.
High-spin iron(II) chelate complexes with β-diketonate and Schiff base ligands: Mössbauer and electronic spectra, **1771**.
Infrared spectrum of matrix isolated tricarbonyliron, **210**.
-(III) ions, reaction with ethylene diaminetetra-acetic and carboxymethyliminobis(ethylenenitrilo)tetra-acetic acids in aqueous perchloric acid solution, **1944**.
reaction with thallium(II), **1367**.
Kinetic studies on the reactions of tricarbonyl(1—3,6-η-cyclo-octadiene)iron with tertiary phosphines and phosphites, **241**.
Kinetics and mechanism of replacement of sulphite in the pentacyano(sulphito)ferrate(II) ion by cyanide ion, **344**.
Ligand lability in carbonyl(η-cyclopentadienyl)triphenylphosphineiron derivatives, **2222**.
Ligand substitution reactions of (1—3-η-allyl)dicarbonylnitrosyliron complexes, kinetic study, **2452**.
New routes to derivatives of the tricarbonyl(η-cyclopentadienyl)iron cation, **2439**.
Nonacarbonyldi-iron: accurate determination of a classic structure in the metal carbonyl field, **800**.
^{13}C N.m.r. spectra and mechanism of bridge–terminal carbonyl exchange in some dinuclear iron carbonyl complexes, **2398**.
-(II) oral therapy, complexing equilibria, *in vitro* studies, **1849**.
-(III) oxidation of catechol and quinol, kinetics, **1940**.
-(III), oxo-bridged binuclear complexes with 1,10-phenanthroline and 2,2′-bipyridine, reactions with cyanide ion, spectral investigations, **680**.
–oxygen systems, *X*-ray photoelectron spectroscopy, **1525**.
Perturbation calculations of valence delocalization in iron(II,III) cyanides and silicates, **846**.
Reaction between hexacyanoferrate(III) ion and nitric and nitrous acids, **2176**, **2182**.
bromo- and chloro-dicarbonyl-π-cyclopentadienyliron and copper acetylides, **2302**.
Redox equilibrium between ferricyanide, ferrocyanide, and nitric and nitrous acids, **246**.
Reinvestigation of the reaction between hexacyanoferrate(III) and sulphite ions, **2381**.
Structure and reactions of matrix-isolated tetracarbonyliron(0), **2276**.
Thiocyanatoferrate(III) complexes, liquid–liquid extraction with tris(3,5,5-trimethylhexyl)amine, **213**.
tricarbonyl (η-cyclo-octa-1,3-diene), (η-cyclohexa-1,3-diene), and (η-cycloheptа-1,3,5-triene) complexes, reaction with triphenylphosphine, kinetics, **2546**.
-(II) trimethyl phosphite complexes, preparation, characterisation, and Mössbauer spectra, **87**.
Two new preparative routes to, and Mössbauer and i.r. spectroscopic measurements on, the salts of μ-halogeno-bis[(π-cyclopentadienyl)dicarbonyliron(II)] cations, **78**.
Isomerisation of pent-1-ene catalysed by solutions of some iridium and platinum complexes, **1514**.
of iron and palladium complexes, **1521**.
of some ruthenium complexes, **1519**.

Isomerism, chelate linkage, in nickel(II) oxime complexes, 1215.

K

Kaolinite and metakaolinite, action of basic solutions on, in chemistry of soil minerals. Part XIV, 934.
Kinetic studies on the interconversion of *mer*-trichloro(*o*-dimethylaminophenyldimethylarsine-*As*)(*o*-dimethylaminophenyldimethylarsine-*N*,*As*)rhodium(III) and *trans*-dichlorobis(*o*-dimethylaminophenyldimethylarsine-*N*,*As*)rhodium(III) chloride, 278.
on the reaction of bromide with the μ-amido-μ-hydroxo-bis[tetra-amminecobalt(III)] complex. Reactions of μ-hydroxo-dicobalt(III) complexes. Part XI, 1453.
of some tricarbonyl(π-cyclodiene)iron complexes with triphenylphosphine, 2546.
of the tricarbonyl(1—3,6-η-cyclo-octadiene)-iron and -ruthenium complexes with tertiary phosphines and phosphites, 241.
and other studies on oxidative addition reactions of iridium phosphine complexes of the type *trans*-[IrCl(CO)(PMe_2R)$_2$], R = Ph, *o*-MeO·C_6H_4, or *p*-MeO·C_6H_4, 480.
Kinetics of acid and base hydrolysis of azido[(*RR*)-1,11-diamino-3,6,9-triazaundecane]cobalt(III), 1264.
of aquation of bis(2,2′;6′,2″-terpyridyl)iron(II) in acidic media and its reaction with cyanide ion, 2032.
of *trans*-dichlorobis(1,3-diaminopropane)cobalt(III) chloride in mixed aqueous solvents, 1688.
of tris(5-nitro-1,10-phenanthroline)iron(II), effects of added salts, 1717.
of the chromic acid oxidation of arsenic(III), 222.
study of ligand-substitution reactions of (1—3-η-allyl)dicarbonylnitrosyliron complexes, factors affecting the stability of σ- and η-allyl complexes, 2452.
and mechanisms of the reduction of μ-amido-μ-superoxo- and μ-amido-μ-peroxo-bis[bis(ethylenediamine)cobalt(III)] complexes by sulphite, nitrite, and arsenite in aqueous solutions, 1561.
of reduction of silver(I) by ascorbic acid, 1460.
of replacement of chloride ion in *trans*-chloro(*o*-tolyl)-bis(triethylphosphine)platinum(II) by substituted pyridine compounds: influence of the basicity and steric hindrance of the pyridines on their reactivity towards the reaction intermediate, 927.
of replacement of sulphite in the pentacyano(sulphito)-ferrate(II) ion by cyanide ion, 344.
of oxidation of catechol (*o*-dihydroxybenzene) by thallium(III) in aqueous perchlorate media, 721.
of transition-metal ions by halogen radical anions. Part IV. The oxidation of vanadium(II) and chromium(II) by di-iodide, dibromide, and dichloride ions, generated by pulse radiolysis, 1142.
of the reaction of acetonitrile with tricarbonyl-(cycloheptatriene) and -(arene) complexes of metals in Group VI, 428.
of catechol and quinol with oxidising metal ions present in excess, 1940.
of iron(III) ions with ethylenediaminetetra-acetic acid and carboxymethyl-iminobis(ethylenenitrilo)tetra-acetic acid in aqueous perchloric acid solution, 1944.
between vanadium(V) and iodide ions in the presence of oxygen, 793.
and spectra of penta-aquahydridochromium(III) and chromium(I) in aqueous perchlorate solutions, pulse radiolysis, 2559.
of ternary complex formation between manganese(II) species and 2,2′-bipyridine, 254.
formation between nickel species and 5-nitrosalicylic acid, 249.
of the vanadium(V) oxidation of phosphorous acid, 226.

L

Lanthanide shift reagent systems, solvation numbers and kinetics of substrate exchange, an n.m.r. study, 765.
Lanthanoid(III) cations as nuclear magnetic conformational probes: studies on nucleotide phosphates, 1762, 1765.
ions. Relative stabilities of dipositive and tripositive lanthanoid ions in aqueous solution, 1671.
trivalent, reaction with the sulphate ion, entropy titrations, a reassessment of data, 1108.
oxides MO_x with $1{\cdot}7 \leqslant x \leqslant 2{\cdot}0$, defect fluorite-type structures, 1335.
shift reagents, application to ^{13}C and ^{1}H n.m.r. spectroscopy, 1253.
tris(β-diketonato)-, shift reagents, structures of mono-adducts, 617.
Lead(II) hexafluoroacetylacetonate complexes with nitrogen containing ligands, 655.
sulphides, reactions with some electrophilic species and mercury compounds, 190.
Liquid–liquid extraction of thiocyanate and thiocyanato-ferrate(III) complexes with tris(3,5,5-trimethylhexyl)-amine, 213.
Lithium, liquid and solid, electrical resistivity, 2325.
nitride, reaction with cerium, thorium, and hafnium, 2166.
Luminescence properties of some synthetic metallocorrins, 820.
spectra of dipotassium hexafluoromanganate(IV), 977.
Lunar soils, Mössbauer studies, 1148.

M

Magnesium ion, orthosilicic acid, water, ternary system, complex formation, 181.
Magnetic circular dichroism and electronic spectra of the uranyl ion. The effect of reduced symmetry on the spectra, 51.
spectroscopy of the vanadyl ion, 813.
of monosubstituted oxo-ions, 1777.
double resonance studies of trimethylstannylphosphines and their complexes, 1977.
properties of polynuclear complexes. Part II. Super-exchange in some binuclear cobalt(II) complexes, 852.
spectroscopic, and structural properties of bis[bromo-, chloro-, and nitrato-(*N*-n-butyl-5-chloro-α-phenyl-2-hydroxybenzylidene)aminato-μ-*O*-copper(II)], 1156.
susceptibility and e.p.r. studies on bis(2,2′-bipyridyl)thio-ureacopper(II) perchlorate, 2448.
Manganese. Excitation and luminescence spectra of dipotassium hexafluoromanganate(IV), 977.
-(II) chelate complexes of 1-substituted butane-1,3-diones, and dissociation constants and stabilities in aqueous dioxan (50% v/v), 2219.

Manganese (*contd.*)
complexes containing the cyclic carbene 2-oxacyclopentylidene, **351**.
containing the substituted and unsubstituted 2,5-dioxacyclopentylidene ligand, **1189**.
co-ordination chemistry. Part III. The reaction of manganese(II) halides with tertiary phosphine and arsine ligands to produce ligand oxide complexes, **886**.
Crystal structure of bromotricarbonylbis(phenyl isocyanide)manganese(I), **219**.
of μ-[2,2′-bipyridylcadmium]- and μ-[1,10-phenanthrolinecadmium]-bis(pentacarbonylmanganese)(2*Cd*–*Mn*), **511**.
of μ-[di-(2-methoxyethyl)ethercadmio]-bis(pentacarbonylmanganese)(2*Cd*–*Mn*), **424**.
of μ-(dimethylarsino)-μ-[3,3,4,4-tetrafluoro-2-(dimethylarsino)cyclobut-1-enyl(*As*,*C*)]-bis(tetracarbonylmanganese), **783**.
of *mer*-tris-(*N*-benzylsalicyclaldiminato)manganese(III), **1793**.
Electron paramagnetic resonance study of dichlorodioxomanganese(VI), **366**.
pentacarbonyl(trifluoroacetato)-, and substituted derivatives, **735**.
Reactions of metal carbonyls. Part VI. Formation of cationic carbonyl salts of manganese-(I) and -(II), **808**.
-(II) species and 2,2′-bipyridine, kinetics of ternary complex formation, **254**.
tricarbonyl(π-cyclopentadienyl)manganese, vibrational spectra, **155**.
Mass spectra of some aryl-substituted fluorocyclotriphosphazenes, **1685**.
and vibrational spectra of '$TeCl_2Br_2$'. The vibrational spectrum of tellurium tetrachloride, **1747**.
Matrix-isolated tetracarbonyliron(0), structure and reactions, **2276**.
Mechanism of bridge–terminal carbonyl exchange in some dinuclear iron carbonyl complexes, ^{13}C n.m.r. studies, **2398**.
of reductive elimination of ethane from some halogenotrimethylbis(tertiary phosphine)platinum(IV) complexes, **2457**.
Mechanisms of organometallic reactions. Part II. Kinetics of the reaction of acetonitrile with tricarbonyl-(cycloheptatriene) and -(arene) complexes of metals in Group VI, **428**.
Mechanistic and structural studies of co-ordination compounds. Preparation, aquation, and base hydrolysis of some *trans*-monosubstituted tetra-aminecobalt(III) cations **1**.
Mercury. Bis(trimethylsilyl)mercury and bis(diphenylphosphino)methanedichloroplatinum(II), formation of Pt–$SiMe_3$ and Pt–$HgSiMe_3$ bonds, **2259**.
-(II), chloride and bromide complexes in aqueous ammonium nitrate melts, **985**.
compounds, reactions with lead sulphides and some electrophilic species, **190**.
Crystal structure of di-μ-chloro-dichlorobis(methyl pyrrolidine-1-carbodithioate)dimercury(II), **2341**.
of tris(1,8-naphthyridine)(perchlorato)mercury(II) perchlorate, **1949**.
and spectroscopic properties of the dimethyl sulphoxide–mercury(II) chloride (2/3) adduct, **1846**.
-(II) di(alkylthio) compounds, i.r. and Raman spectra, **2140**.
Far-infrared and Raman spectra of crystalline ammonium and alkali-metal trichloromercurate(II) salts, **1180**.
-(II) halide adducts of transition-metal complexes. Part II. Tertiary-phosphine and -arsine complexes of rhodium(III) and iridium(III), **1702**.
Organomercury radicals in irradiated alkylmercury(II) halides and dimethylmercury, **1086**.
Metal carbonyls, reaction with oxygen, **567**.
complexes of sulphur ligands. Part V. Dialkyl-, diarylphosphinodithioato- and *NN*-dialkyldithiocarbamato-complexes of ruthenium(II), **739**. Part VI. Studies of facile optical isomerism reactions in dimethylphosphinodithioato-complexes of ruthenium(II), **754**.
corrole anions, electronic spectra, **395**.
ion-catalysed, and uncatalysed, hydrolysis of 8-quinolyl sulphate, **9**.
-ion complexes with ligands formed by reaction of amines with aliphatic carbonyl compounds. Part IV. Some compounds of nickel(II) and copper(II) formed by the diaminoethane–butanone reaction, **347**.
oxidations in solution. Part XI. Malic acid with cerium(IV) in perchlorate media, **2521**.
O- and *C*-**Metallation** of 2-alkoxyphenylphosphines by platinum(II), **992**.
of aniline by reaction with dodecacarbonyltriosmium, **1013**.
internal, of platinum–dimethyl(1-naphthyl)phosphine and –dimethyl(1-naphthyl)arsine complexes, **139**.
reactions involving some triaryl phosphite derivatives of osmium, **2384**.
Metallocorrins, luminescence properties, **820**.
Methylseleno-derivatives of Group IV. Part II. Hydrides, **450**.
Mimetite, single-crystal vibrational spectrum, **1505**.
Molecular orbital calculations for an octahedral cobalt carbonyl cluster complex, $Co_6(CO)_{14}^{4-}$, **133**.
(*ab initio*), and photoelectron spectroscopy on bonding in methyl- and silyl-cyclopentadiene compounds, **1650**.
on transition metal complexes. Part VIII. Potential energy curves for some $3d^6$ complexes and their relation to the Tanabe–Sugano diagrams, **2015**.
structures of non-geminally substituted phosphazenes. Part V. Crystal structure of 2,*trans*-6-dichloro-2,4,4,6,8,8-hexakis(dimethylamino)cyclotetraphosphazatetraene, **705**.
Molybdenum–arene chemistry: diprotonation of arenetris(tertiary phosphine)molybdenum compounds, **1361**.
benzene-, *m*-fluorobenzene-, and *p*-fluorobenzene-diazo complexes, ^{19}F n.m.r. and ^{15}N i.r. studies, **1837**.
bis(π-cyclopentadienyl) alkyl, alkynyl, and olefin complexes, **1324**.
Bis[tricarbonyl(π-cyclopentadienyl)molybdenum], vibrational spectra, **155**.
carbonyl complexes with 1,2-bis(isopropylseleno)ethane, a conformational study of a chelated selenium ligand, **288**.
-(II) clusters, oxidation to molybdenum(3+) clusters, **506**.
Crystal structure of tetrachloro{chlorotetrakis[dimethyl(phenyl)phosphine]rhenium(I)}-μ-dinitrogen-methoxymolybdenum(V)–methanol–hydrochloric acid, **1637**.
-(IV), *trans*-dichlorobis(*N*-methylsalicylaldiminato)-, crystal and molecular structure, **184**.

Molybdenum (*contd.*)
μ-Dinitrogen-bis{[1,2-bis(dimethylphosphino)ethane]hydrido[η-(1,3,5-trimethylbenzene)]molybdenum} cation, **2164**.
1,4-diselenantetracarbonyl complex, **1872**.
Formation and dissociation of the ethylenediaminetetra-acetic acid complex of the molybdenum(v) dimer $Mo_2O_4^{2+}$ in aqueous perchloric acid solution, **1468**.
halide sulphides and halide selenides, **2191**.
heptafulvene complexes, **293**.
Identification of diastereoisomeric tetracarbonyl[*o*-phenylenebis(methylphenylarsine)]molybdenum complexes by means of ^1H and ^{13}C Fourier n.m.r. spectroscopy, **2500**.
ketimine complexes; stoicheiometric, homogeneous oxidation of amines to aldehydes or ketones using bis-π-cyclopentadienyl molybdenum derivatives, **1244**.
Novel redistribution reaction of alkenes on molybdenum forming cationic diene complexes and alkanes, **311**.
organometallic complexes as catalyst precursors in the disproportionation of propene, **1742**.
organonitrogen complexes, synthesis of $(\pi\text{-}C_5H_5)Mo(CO)_2\text{-}N{:}CR_2$ complexes, **639**.
pentafluoride and oxide tetrafluoride, enthalpies of formation, **1062**.
Preparation and characterisation of (1—2-η-ethylene)bis-[1,2-bis(diphenylphosphino)ethane]molybdenum(0) and bis[1,2-bis(diphenylphosphino)ethane]hydrido(pentane-2,4-dionato)molybdenum(II), **1783**.
Synthesis and chemistry of some binuclear oxomolybdenum(v) xanthate (*O*-alkyl dithiocarbonate) complexes, **1044**.
Thermochemistry of alkali metal hexafluoromolybdates(v), **1064**.
tri-iodide, enthalpy of formation, **399**.
Vibrational spectra and vapour density of $MoOF_4$, **81**.
Mössbauer and electronic spectra of high-spin iron(II) chelate complexes with β-diketonate and Schiff base ligands, **1771**.
and i.r. spectroscopic measurements on the salts of μ-halogeno-bis[(π-cyclopentadienyl)dicarbonyliron(II)] cations, **78**.
spectra, ^{119}Sn, of organotin oxines in applied magnetic fields, **470**.
of six-co-ordinate organotin(IV) compounds with oxygen donors: structure, bonding, and correlation with antimony(v) e^2qQ values, **2355**.
^{119}Sn, of trichlorotin complexes, **2254**.
of trimethyl phosphite complexes of iron(II), **87**.
^{182}W, on some simple tungsten compounds, **1314**.
spectroscopy, ^{121}Sb, of some cyanide adducts of antimony pentachloride, **1374**.
with magnetic perturbation, application to binuclear complexes with inequivalent iron atoms, **2265**.
studies of Apollo 14 and 15 lunar soils, **1148**.
^{57}Fe, study of the role of lattice-substituted iron in the benzidine blue reaction of montmorillonite, **2211**.

N

Neptunium. Phosphine oxide complexes of neptunium(IV) nitrates, **889**.
Nickel(II), cationic cyclic carbene complexes, **102**.
-(II) chelate complexes with bidentate substituted-pyridine ligands in dimethyl sulphoxide solution, rates of formation, **2082**.
-(II) complex of pentane-2,4-dithione, crystal structure, **622**.
-(0) complexes containing the bulky chiral ligand tri[(+)-bornan-2-yl]phosphite, **2216**.
Complexes of nickel(II) halides with polymethylenebis-(phenylthiourea) compounds, **837**.
of Schiff-base derivatives of acetylacetone, bromination reactions, **44**.
with asparaginate and chloride ligands, **1123**.
with sulphur, phosphorus, and arsenic ligands, **1424**.
-(II) compounds with ligands formed by the diaminoethane–butanone reaction, **347**.
Crystal and molecular structure of 1,3-bis(2-iminobenzylideneimino)propanenickel(II), **1363**.
of the bis(tetramethylammonium) octa-μ_3-carbonyl-hexacarbonyl-*octahedro*-dinickeltetracobaltate(2—), **432**.
of chloro[*N*,*N*′-di-(3-aminopropyl)piperazine]nickel(II) chloride, **989**.
of di-μ-carbonyl-dicarbonyl(triethylphosphine)cobalt(π-cyclopentadienylnickel), **1067**.
Crystal structure of aquo{*o*-[(2-pyridylmethylene)amino]-benzamide}[2-(2-pyridyl)-1,2,3,4-tetrahydroquinazolin-4-one]nickel(II) dinitrate tetrahydrate, **150**.
of *cis*-bis-(*N*-isopropyldithiocarbamato)nickel(II), **1790**.
of {7,8,15,17,18,20-hexahydrodibenzo[*e*,*m*]pyrazino[2,3-*b*][1,4,8,11]tetra-azacyclotetradecinato(2—)}nickel-(II), **1799**.
of {7,8,15,16,17,18-hexahydrodibenzo[*e*,*m*][1,4,8,11]-tetra-azacyclotetradecinato(2—)}nickel(II), **1799**.
of the hydrated complex bis(pyridoxylidene-DL-valinato)nickel(II), **2228**.
Dissociation of aqua[tris(2-dimethylaminoethyl)amine-*NN*′*N*″*N*‴]nickel(II) in perchloric acid solution, **2513**.
Electronic spectrum of bis(dimethyl phosphorodithioato)-2,9-dimethylphenanthrolinenickel(II), **1420**.
-(II) halides and pseudohalides, complexes with 2- and 4-vinylpyridines, **272**.
Helium-I photoelectron spectrum of tetrakis(trifluorophosphine)nickel(0), **2316**.
hydride complexes as catalyst precursors in the oligomerisation of butadiene, **269**.
monocarbene complexes, **357**.
Nuclear magnetic resonance studies and theoretical treatment of spin-density distributions in nickel(II) complexes, **1711**.
-(II) oxime complexes, factors influencing the chelate linkage isomerism, **1215**.
Preparation, vibrational and electronic spectral properties of cobalt(II) and nickel(II) complexes, **864**.
-(II) promoted hydrolysis of 2-cyano-8-hydroxyquinoline, **2148**.
species and 5-nitrosalicyclic acid, kinetics of ternary complex formation, **249**.
Stereochemistry of bis(salicylaldiminato)metal(II) compounds. Part II. Bis[*N*-(2,6-dialkylphenyl)salicylideneiminato]nickel(II) compounds and five- and six-co-ordinate pyridine and picoline complexes, **1690**.
Zerovalent nickel complexes with hexafluorobut-2-yne and hexakis(trifluoromethyl)benzene, **97**.
Nickelocene, reaction with bis(trifluoromethyl)diazomethane, **93**.

Niobium alkyls, use of bis[(trimethylsilyl)methyl]- and bis(neopentyl)-zinc and tris[(trimethylsilyl)methyl]-aluminium–diethyl ether for preparations, 2187.
Co-ordination compounds of trimethylniobium(v) dichloride, 1080.
-(v) Crystal and molecular structure of trichlorobis-(*N*-methylthioacetamido)niobium(v), 198.
Heat of formation of some alkali hexahalogenoniobates(IV), 2505.
Methylniobium(v) oxohalide complexes, 1433.
-93 n.q.r. studies of niobium pentafluoride and its complexes with xenon difluoride and some organic bases, 205.
oxides, electron microscopy. Multiple phases in the system $Nb_2O_5+MgF_2$, 115.
reaction with liquid sodium, 55.
penta-alkoxide co-ordination complexes, preparation and characterisation, 585.
Sulphoxide complexes of oxobis(oxalato)niobates(v), 165.
Nitric and nitrous acids, redox equilibrium with ferricyanide and ferrocyanide, 246.
Nitrogen dioxide, nitrogen trioxide, and nitrate(2—) in irradiated lead(II) nitrate, e.s.r. study, 2247.
donor adducts with boron halides, exchange reactions, 411.
Heat of mixing of dinitrogen tetroxide with organic liquids, 999.
-14 magnetic resonance study of the exchange of acetonitrile on copper(II) complexes, 281.
N.m.r. Internuclear double resonance studies on transition-metal complexes containing two, three, or four trialkylphosphine ligands, 1676.
Magnetic double resonance studies of trimethylstannylphosphines and their complexes, 1977.
nitrogen-14, study of the exchange of acetonitrile on copper(II) complexes, 281.
oxygen-17, oxygen–nitrogen groupings, 202.
and preparative studies of 1,3,2,4-diazadiphosphetidines. Part IV. Methyl- and methoxy-fluorodiazadiphosphetidines, 1912.
probes of molecular conformations of nucleotide phosphates, 1762, 1765.
spectra, ^{13}C, and mechanism of bridge–terminal carbonyl exchange in some dinuclear iron carbonyl complexes, 2398.
^1H and ^{19}F, of cyclopentadienylperfluoroalkylcobalt complexes, evidence for restricted rotation, 415.
spectroscopy, ^{13}C and ^1H, applications of lanthanoid shift reagents, 1253.
^1H and ^{13}C Fourier, of diastereoisomeric tetracarbonyl-[*o*-phenylenebis(methylphenylarsine)]molybdenum complexes, 2500.
studies of cobalt(II) complexes in solution, 870.
^1H, of exchange reactions between complexes $R_3M,M'R'_3$ and their components. Part II. Exchange between the complex trimethylphosphine–trimethylborane and an excess of trimethylborane and between trimethylphosphine–trimethylalane and an excess of hexamethyldialuminium, 669.
of lanthanide complexes. Part I. Solvation numbers and kinetics of substrate exchange in lanthanide shift reagent systems, 765.
of nickel(II) complexes and theoretical treatment of spin-density distributions in cobalt(II) and nickel(II) complexes, 1711.
study, ^1H, of carbene complexes of platinum(II) and palladium(II), 693.
of donor site and halogen redistribution in boron trihalide adducts of methyl acetate and its sulphur analogues, 725.
^{13}C, of metal complexes of ethylenedinitrilo-*NNN'N'*-tetra-acetic acid, 2271.
^1H, of the small *closo*-carboranes 1,5-dicarba-*closo*-pentaborane(5), carba-*closo*-hexaborane(7), 1,2-dicarba-*closo*-hexaborane(6), 1,6-dicarba-*closo*-hexaborane(6), and 2,4-dicarba-*closo*-heptaborane(7), 665.
of some bis(phosphinoyl)amines and bis(phosphinothioyl)amines, 1985.
N.q.r. niobium-93, of complexes of niobium pentafluoride with xenon difluoride and some organic bases, 205.
Nucleophilicity towards palladium(II) complexes, 490.

O

Olefin rotation in platinum(II) olefin complexes. Part IV. Energies of activities for rotation of substituted olefins in square-planar $PtCl_2(L)$(olefin) and PtCl(acac)(olefin) complexes, 128.
Oligomerisation of butadiene by use of nickel– or palladium–hydride complexes as catalyst precursors, and related studies, 269.
Optical and electron spin resonance spectra of cobalt complexes related to vitamin B_{12}, 24.
Optically active co-ordination compounds. Part XXXIII. Bacterial resolution of bis(ethylenediamine)1,10-phenanthrolinecobalt(III) chloride, 2,2'-bipyridylbis(ethylenediamine)cobalt(III) chloride, and potassium (ethylenediaminetetra-acetato)cobaltate(III), 518. Part XXXIV. Modification of reaction pathways in 1,10-phenanthroline and its derivatives by metal ions, 1217. Part XXXV. Configurations, preparations, and reactivities of some complexes of amino-acids, 1385. Part XXXVI. Convenient resolution of the (ethylenediaminetetra-acetato)-cobaltate(III) ion, 1635.
Organoboron compounds. Part VII. Boron derivatives of *o*-hydroxybenzyl alcohol, 162. Part VIII. Synthesis and properties of some 2-substituted 1,3,2-oxathiaborinans, 1438.
Organonitrogen groups in metal carbonyl complexes. Part VI. Studies on the synthesis of $(\pi\text{-}C_5H_5)Mo(CO)_3NCR_2$ complexes, 639. Part VII. Methyleneamino-derivatives of iron carbonyls, 1620.
Organothiometallic compounds. Part I. I.r. and Raman spectra of some di(alkylthio)mercury(II) compounds, 2140.
Osmium cation $[OsH_2(CO)(NO)L_2]^+$ (L = triphenyl- or tricyclohexyl-phosphine). Transition-metal nitrosyl compounds. Part IX. 981.
Cationic osmium(II) complexes by electrophilic attack on a π-allyl ligand. Reactivity of co-ordinated ligands. Part XVIII, 951.
Crystal and molecular structure of nonacarbonyl-μ-(1,2,3,4-tetraphenylbutadiene-1,4-diyl)-*triangulo*-triosmium, 1813.
cyclo-octadiene complexes, 2093.
Metallation of aniline by reaction with dodecacarbonyltriosmium, 1013.

Osmium (*contd.*)
Reactions of dodecacarbonyl-*triangulo*-triosmium with alkenes and benzene; fluxional behaviour of μ_3-(ethan-1-yl-2-ylidyne)-di-μ-hydrido-*triangulo*-tris(tricarbonylosmium)(3*Os*–*Os*), 1415.
tetroxide, reaction with alkenes, glycols, and alkynes; oxo-osmium(VI) esters and their structures, 1094.
triaryl phosphite derivatives, *ortho*-metallation reactions, 2384.
Oxidation of bis(phenanthroline)copper(I) complexes by molecular oxygen in nitromethane solution, 85.
of diamagnetic octa-μ_3-chloro-*octahedro*-hexamolybdenum(II) and -tungsten(II) clusters to paramagnetic dodeca-μ_2-chloro-*octahedro*-hexamolybdenum(3+) and -tungsten(III) clusters, 506.
Oxidative addition, carbonyl insertion, and *O*-demethylation reactions of rhodium complexes with tertiary 2-methoxyphenylphosphines, 1980.
reactions of iridium phosphine complexes, kinetics, 480.
to stable five-co-ordinate d^8 complexes, 2531.
Oxime complexes, thermodynamic study. The relative co-ordinating power of ketone, oxime, and amine functional groups, 47.
Oxygen atom, co-ordinating properties in aqueous solution in bis-2-aminoethyl ether, 2363.
-17 nuclear magnetic resonance. Part I. Oxygen–nitrogen groupings, 202.
Oxygenation studies. Part I. Rhodium(I)-promoted oxygenation of terminal olefins to methyl ketones, 1926.

P

Palladium(II) carbene complex, crystal structure, 2065.
-(II) carbene complexes, ^{1}H n.m.r. spectra, 693.
-(I) carbonyl halide complexes, 534.
Catalysis of pent-1-ene isomerisation by solutions of bis(benzonitrile)dichloropalladium(II) in benzene, 1521.
-(II), cationic cyclic carbene complexes, 102.
-(II) complexes with asparaginate and chloride ligands, 1123.
nucleophilicity towards, 490.
of *o*-phenylenebis(diphenylarsine) and (*o*-diphenylarsinophenyl)diphenylphosphine, 2238.
Crystal and molecular structure of dibromotris(5-ethyl-5*H*-dibenzophosphole)palladium(II)–chlorobenzene and –bromobenzene, 1879.
of dibromotris(2-phenylisophosphindoline)palladium(II) (red), and of its orange acetone adduct, racemic and optically resolved forms of a five-co-ordinate compound, 2117.
of (*NN*-dimethylbenzylamine-2*C*,*N*)(*N*-phenylsalicylaldiminato)palladium(II), 1632.
Crystal structure of cadmium hexacyanopalladate(IV), 2473.
-(II) derivatives of tris(but-3-enyl)arsine containing co-ordinated and unco-ordinated olefinic groups, 1531.
(dimethyl acetylenedicarboxylate)bis(triphenylphosphine)-, structure and bonding, 1038.
-(II) halides, reaction with 7-methylenebicyclo[2.2.1]hept-2-ene derivatives; unique *trans*-halogenopalladation of the exocyclic double bond, 2242.
Helium-I photoelectron spectrum of tetrakis(trifluorophosphine)palladium(0), 2316.
hydride complexes as catalyst precursors in the oligomerisation of butadiene, 269.
monocarbene complexes, 357.
Palladacyclopentadienes; reactions of dimethyl acetylenedicarboxylate with dibenzylideneacetone–palladium, 169.
-(II). Preparation and properties of some vinyl complexes, 34.
Stretching vibrations of planar di-μ-halogeno-bisdihalogenopalladate(II) anions, 1483.
Synthesis, reactivity, and fluorine-19 nuclear magnetic resonance spectra of binuclear trifluoromethylthio-complexes of palladium, 971.
Vibrational spectra of tetrahalogenopalladium(II) anions in solution, 1479.
Phosphazene. Aryl-substituted fluorophosphazenes. Part VII. Mass spectra of some aryl-substituted fluorocyclotriphosphazenes, 1685.
Crystal and molecular structure of dodecamethoxycyclohexaphosphazene, 1022.
Crystal structure of 2,*trans*-6-dichloro-2,4,4,6,8,8-hexakis(dimethylamino)cyclotetraphosphazatetraene, 705.
Fluorination of dimethylaminopentachlorotriphosphazene, 1113.
non-geminally substituted, molecular structures. Part VI. Crystal structure of 2,*cis*-4,*trans*-6,*trans*-8-tetrachloro-2,4,6,8-tetraphenylcyclotetraphosphazatetraene, 1659.
Phosphetan alkoxides and aryloxides, preparation and characterisation. Production of *cis*- and *trans*-isomers from *trans*-1-chlorophosphetan 1-oxide, 633.
Phosphido group, terminal, in an organoiron complex, reactions, 2439.
Phosphine–borane derivatives. Part VII. The vibrational spectra of the phosphine adducts of boron trihalides, 595.
exchange in *trans*-chlorobis(methyldiphenylphosphine)[2-(phenylazo)phenyl]platinum(II) promoted by intramolecular nucleophilic attack, 1444.
Phosphinyl radicals formed by solid-state radiolysis, an e.s.r. study, 2145.
Phosphomolybdate, a novel structure: crystal structure of $[NH_4]_5[(MoO_3)_5(PO_4)(HPO_4)],3H_2O$, 941.
Phosphorus compounds, stereochemistry. Part I. The crystal and molecular structure of 1,3-di-t-butyl-2-*trans*-4-dichloro-2,4-dioxocyclodiphosphazane, 2395.
Crystal and molecular structure of 1,5-dihydrodecamethylcyclopentaphosphonitrilium tetrachlorocuprate(II) monohyrate, 382.
of nonamethylcyclotetraphosphonitrilium pentacarbonyliodochromate(0), 377.
of 2-phenyl-1-phosphanaphthalene, 2388.
of tetraphenylcyclotetraphosphine monosulphide, 386.
Crystal structure of octaphenylcyclotetraphosphazene, 2527.
of 1, *trans*-3, *cis*-5, *trans*-7-tetrakis(dimethylamino)-1,3,5,7-tetrafluorotetraphosphonitrile, 1162.
of *cis*-2,4,6-trichloro- and *cis*-2,4,6-tribromo-2,4,6-trifluorocyclotriphosphazene, 2071.
Cyclisation of bis(dichlorophosphino)-, bis(dichlorophosphinoyl)-, and bis(dichlorophosphinothioyl)-amines by primary amines, 2010.
Dimethylamino- and methoxy-derivatives of dichlorophosphino(dichlorophosphinyl)methylamine, $Cl_2P{\cdot}NMe{\cdot}P(O)Cl_2$, 836.

Phosphorus (*contd.*)
Dimethylaminolysis of dichlorophosphinothioyl compounds, 2329.
–fluorine chemistry. Part XXXIV. Fluorophosphoranes involving potential intramolecular donor–acceptor interaction, 1841. Part XXXV. Unsymmetrical 1,3-diaza-2,4-diphosphetidines of zwitterionic structure, 2153. Part XXXVII. Preparation and crystal and molecular structure of the product of the reaction of tetrafluoro(phenyl)phosphorane with 2-methyl-8-trimethylsiloxyquinoline, 2466.
–nitrogen compounds. Part XXXVIII. Reactions of phenylphosphonic dichloride and phenylphosphonothioic dichloride with dibenzylamine, 1286. Part XXXIX. Friedel–Crafts reactions of chloro(piperidino)cyclotriphosphazatrienes with benzene, 1610.
N.m.r. study of some bis(phosphinoyl)amines and bis(phosphinothioyl)amines, 1985.
Oligomeric dimethylaminocyclophosphazenes, 1618.
Preparation, properties and crystal structure of the cyclic compound formed by the thermal dehydration of 1-hydroxyethylidenediphosphoric acid, 960.
Preparative and n.m.r. studies of methyl- and methoxyfluorodiazadiphosphetidines, 1912.
Reaction of octakis(dimethylamino)tetraphosphonitrile with antimony trifluoride, 1070.
Photoelectron spectra, helium-I, of tetrakis(trifluorophosphine)-nickel(0), -palladium(0), and -platinum(0), 2316.
spectroscopy and *ab initio* molecular-orbital calculations on bonding in methyl- and silyl-cyclopentadiene compounds, 1650.
X-ray, of iron–oxygen systems, 1525.
X-ray, on the mixed valency compound Cs_2SbCl_6, 565.
X-ray, of some uranium oxide phases, 1296.
spectra, He(I), of some transition-metal sandwich complexes, 304.
Platinum. Adducts of co-ordination compounds. Part XI. Isomerism and solvation of dichlorobis(triphenylphosphine)platinum(II), 2320.
-(II) alkyl carbonyl complexes, preparation and reactions, 421.
benzene-, *m*-fluorobenzene-, and *p*-fluorobenzene-diazo complexes, ^{19}F n.m.r. and ^{15}N i.r. studies, 1837.
–benzoyl and –dibenzylideneacetone complexes, thermochemistry, 462.
Bis(trimethylsilyl)mercury and bis(diphenylphosphino)-methanedichloroplatinum(II), formation of Pt–$SiMe_3$ and Pt–$HgSiMe_3$ bonds, and a platinum(I) complex, 2259.
-(II) carbene complexes, ^1H n.m.r. study, 693.
–carbon bonds, compounds containing. Part IV. Crystal and molecular structure of *trans*- and *cis*-dichloro-(1,3-diphenylimidazolidin-2-ylidene)(triethylphosphine)platinum(II), 2427.
-(II), cationic cyclic carbene complexes, 102.
-(II), *trans*-chlorobis(dimethylphenylphosphine)(trimethylsilylmethyl)platinum(II), crystal and molecular structure, 195.
-(II) complexes containing dimethyl sulphide as a bridging ligand, preparation, and vibrational and n.m.r. spectroscopic studies, 576.
of *o*-phenylenebis(diphenylarsine) and (*o*-diphenylarsinophenyl)diphenylphosphine, 2238.
-(IV) complexes $[PtX_4L_2]$ and $[PtX_5L]^-$ (X = Cl, Br, or I; L = NMe_3, PMe_3, $AsMe_3$, or SMe_2), vibrational and n.m.r. spectra, 523.
-(II) complexes studied by heteronuclear magnetic double resonance, 324.
-(II) compounds with 2,2′-bipyridyl and its analogues, spectroscopic studies, 2133.
Crystal and molecular structure of dibromotris(5-methyl-5*H*-dibenzophosphole)platinum(II)–bromobenzene, 1879.
of *trans*-di-iodobis(tricyclohexylphosphine)platinum(II), an overcrowded molecule, 1834.
Crystal structure of *trans*-carbonyl(*p*-chlorophenyl)bis(triethylphosphine)platinum(II) hexfluorophosphate, 702.
of the red form of 2,2′-bipyridyldichloroplatinum(II), 1002.
of tetraethylammonium μ-chloro-*abefh*-pentachloro-μ-nitrosyl-nitrosyldiplatinate(II), 436.
-(II) derivatives of tris(but-3-enyl)arsine containing co-ordinated and unco-ordinated olefinic groups, 1531.
dimethyl(1-naphthyl)phosphine and dimethyl(1-naphthyl)arsine complexes, internal metallation, 139.
-(IV) halogenotrimethylbis(tertiary phosphine) complexes, mechanism of the reductive elimination of ethane, 2457.
Helium-I photoelectron spectrum of tetrakis(trifluorophosphine)platinum(0), 2316.
–hexafluorobuta-1,3-diene complexes, tin(IV) halide catalysed vinyl rearrangement, 1194.
-(II), hydrido-complexes, new, and their reactions with electrophiles, 187.
Infrared and Raman studies of halogenotrimethylplatinum(IV) complexes and related compounds, 2415.
-(II), isocyanide, carbene, diethyldithiocarbamate, and cyclo-octa-1,5-diene complexes, 1535.
Kinetics and mechanism of replacement of chloride ion in *trans*-chloro-(*o*-tolyl)bis(triethylphosphine)platinum(II) by substituted pyridine compounds, 927.
metal complexes. Part IV. 1,3-Diaryltriazenido-derivatives, 1205.
metal dialkyl phenylphosphonite and alkyl diphenylphosphinite derivatives, 1309.
O- and *C*-Metallation of 2-alkoxyphenylphosphines by platinum(II), 992.
-(II) methyl carbonyl complexes, conversion into acetyl derivatives, a kinetic study, 1293.
monocarbene complexes, 357.
-(II) olefin complexes. Energies of activities for rotation of substituted olefins in square-planar $PtCl_3(L)$(olefin) and PtCl(acac)(olefin) complexes, 128.
π-olefin complexes from bis(1,5-diphenylpenta-1,4-dien-3-one)platinum(0), 1405.
-(IV) organohalogenobis(dimethylphenylphosphine) complexes, thermal decomposition, 1613.
Phosphine exchange in *trans*-chlorobis(methyldiphenylphosphine)[2-(phenylazo)phenyl]platinum(II) promoted by intramolecular nucleophilic attack, 1444.
Platinacyclopentadienes; reactions of dimethyl acetylenedicarboxylate with dibenzylideneacetone–platinum, 169.
-(II). Preparation and properties of some vinyl complexes, 34.

Platinum (*contd.*)
Steric effects in substitution reactions of *cis*- and *trans*-arylchlorobis(triethylphosphine)platinum(II) complexes, **1377**.
Stretching vibrations of planar di-μ-halogeno-bisdihalogeno-platinate(II) anions, **1483**.
Synthesis, reactivity, and fluorine-19 nuclear magnetic resonance spectra of binuclear trifluoromethylthio-complexes of platinum, **971**.
Vibrational spectra of tetrahalogenoplatinum(II) anions in solution, **1479**.
Zerovalent platinum complexes with hexafluorobut-2-yne and hexakis(trifluoromethyl)benzene, **97**.
Polarographic behaviour in acetone of complexes formed between the bis(π-cyclopentadienyl)vanadium(IV) group and some 1,1-dithio-chelates, **773**.
Polyfluoroalkyl compounds of silicon. Part X. Further silanes containing the bis(trifluoromethyl)amino-group, **1852**.
Post-transition-metal halide complexes, charge-transfer spectra, **1446**.
Potassium. Crystal structure of bis(5-phenacyloxy-2-hydroxymethyl-4*H*-pyran-4-one)potassium iodide, **907**.
Potential energy curves for some $3d^6$ complexes and their relation to Tanabe–Sugano diagrams, **2015**.
Preparation and characterisation of some niobium and tantalum penta-alkoxide co-ordination complexes, **585**.
and identification by proton nuclear magnetic resonance and proton–platinum-195 INDOR and vibrational spectroscopy of some platinum(II) complexes containing dimethyl sulphide as a bridging ligand, **576**.
and nuclear magnetic resonance investigation of some stereochemically non-rigid derivatives of dodeca-carbonyltetrairidium, **328**.
and reactions of alkyl carbonyl complexes of platinum(II), **421**.
Protactinium pentabromide, vapour pressure, **1473**.
Pyrazolyl derivatives of aluminium and gallium, **503**.
Pyrolysis of trichloronitrosomethane, **448**.

R

Radiotracers in fluorine chemistry. Part II. Fluorine-18 exchange between carbonyl fluoride and Group I fluorides. Effect of dipolar, aprotic solvents, **112**.
Raman (single crystal) study of the vibrations of the tricarbonylchromium unit in benzenetricarbonylchromium and tricarbonyl(1,3-dimethylbenzene)chromium, **2293**.
Reaction of amines with nickel, palladium, and platinum complexes containing isocyanide and fluorocarbon ligands to yield monocarbene complexes, **357**.
between hexacyanoferrate(III) ion and nitric and nitrous acids. Part I. Kinetics, **2176**. Part II. Nature of the intermediate, **2182**.
mechanisms of metal–metal bonded carbonyls. Part IV. The substitution reaction of μ-diphenylacetylene-bis-(tetracarbonylcobalt) with tri-n-butylphosphine, **456**. Part V. A kinetic study of the reaction of diphenylacetylene with hexacarbonylbis(tri-n-butylphosphine)-dicobalt, **607**. Part VI. Reactions of μ-carbonyl-μ-diphenylgermanediyl-bis(tricarbonylcobalt) with carbon monoxide, triphenylphosphine, and tri-n-butylphosphine, **1350**. Part VII. Reaction of alkynes with μ-carbonyl-μ-diphenylgermanio-bis(tricarbonylcobalt)-(*Co–Co*), **1856**. Part VIII. Substitution reactions of *cyclo*-tris(tetracarbonylruthenium)(3*Ru–Ru*), **1860**.
of octacarbonyldicobalt with organo-silanes, -germanes, and -stannanes: formation, properties, and vibrational spectra of trimethylgermyltetracarbonylcobalt and related complexes, **264**.
Reactions of bis-(1,1,1,5,5,5-hexafluoropentane-2,4-dionato)-copper(II) with pyrazine and the crystal structures of the 1 : 1 and 2 : 1 complexes, **17**.
of chlorine trifluoride with pentafluoroiodobenzene and related compounds. Preparation of pentafluorophenyl-iodine(V) tetrafluoride, **509**.
of complex compounds of cobalt. Part IX. Ammonia exchange during the base hydrolysis of chloropenta-amminecobalt(III) ion in concentrated aqueous ammonia, **373**.
of liquid sodium with transition-metal oxides. Part VII. The oxides of niobium and tantalum, **55**.
of low-valent metal complexes with fluorocarbons. Part XXVIII. Nickelocene and tricarbonyl(π-allylic)cobalt complexes with bis(trifluoromethyl)diazomethane, **93**. Part XXIX. Zerovalent nickel and platinum complexes with hexafluorobut-2-yne and hexakis(trifluoromethyl)benzene, **97**.
of toluene-*p*-sulphonyl azide and isocyanate with low valent transition-metal complexes, **298**.
Reactivity of co-ordinated ligands. Part XVI. The reaction of bicyclo[3.2.1]octa-2,6-diene with dodeca-carbonyltriruthenium, **145**. Part XVII. Heptafulvene complexes of chromium, molybdenum, and tungsten, **293**. Part XIX. (π-Cyclopentadienyl)rhodium complexes of some cyclic monoterpenoids, **1054**.
Redox decomposition of *trans*-tetra-ammineaquosulphito-cobalt(III) in aqueous solution, **647**.
equilibrium between ferricyanide, ferrocyanide, and nitric and nitrous acids, **246**.
reactions in the formation of titanium complexes with aromatic Schiff's bases, **460**.
Rhenium. Crystal and molecular structure of carbonyl-tris(*NN*-diethyldithiocarbamato)rhenium(III), **486**.
Crystal structure of tetrachloro[1,2-bis(dimethylarsino)-3,3,4,4-tetrafluorocyclobut-1-ene]rhenium(IV), **2128**.
of tetrachloro{chlorotetrakis[dimethyl(phenyl)phosphine]rhenium(I)}-μ-dinitrogen-methoxymolybdenum-(V)–methanol–hydrochloric acid, **1637**.
Derivatives of pentacarbonylnitratorhenium(I) with some nitrogen, phosphorus, and arsenic donor ligands, **2070**.
Dinitratotetracarbonylrhenate(I) complex, **1073**.
-(I), -(III) ,-(IV), and -(V) dithiocarbamato- and carbonyl-dithiocarbamato-complexes, **684**.
nitrosyl complexes, **1075**.
Tris(dimethylphenylphosphine)(dinitrogen)(dithiocarbamato)rhenium complexes and their reactions with hydrogen halides, **2358**.
Rhodium. (1—3-η-Allyl)tris(trifluorophosphine)rhodium(I) complexes, **1993**.
-(I) complexes containing bidentate diphenyl(prop-2-enyloxo)phosphine and (but-3-enyl)diphenylphosphine ligands, **1898**.
complexes from imidoyl chloride and rhodium(I) precursors, and the crystal and molecular structure of carbonyltri-iodo[α-(*N*-methyl-α-methyliminobenzylamino)benzylidene-*N*,*C*]rhodium, **68**.

Rhodium (*contd.*)
-(III) complexes of *o*-phenylenebis(diphenylarsine) and (*o*-diphenylarsinophenyl)diphenylphosphine, 2238.
complexes with tertiary 2-methoxyphenylphosphines, oxidative addition, carbonyl insertion, *O*-demethylation, 1980.
Crystal structure of di-μ-chloro-bis{chloro[2-(hydroxymethyl)pent-4-enyl]rhodium(III)}-methanol, 1699
π-cyclopentadienyl complexes of some monoterpenoids, 1054.
-(I), dicarbonyl(acetylacetonato)-, single-crystal infrared study, 690.
Dynamics and reactivity of μ-(1-σ,5,6-η:2—4-η-cycloheptadienyl)- and μ-(1-σ,5,6-η:2—4-η-cyclo-octadienyl)-bis[(η-cyclopentadienyl)rhodium](*Rh–Rh*), 2368.
Kinetic studies on the interconversion of *mer*-trichloro(*o*-dimethylaminophenyldimethylarsine-*As*)(*o*-dimethylaminophenyldimethylarsine-*N*,*As*)rhodium(III) and *trans*-dichlorobis(*o*-dimethylaminophenyldimethylarsine-*N*,*As*)rhodium(III) chloride, 278.
Preparation and crystal and molecular structure of trichloro(dimethylaminomethylene)bis(triethylphosphine)rhodium(III), 1591.
of rhodium(III) carbene complexes from rhodium(I) precursors, 65.
-(I)-promoted oxygenation of terminal olefins to methyl ketones, 1926.
Protonation of (η-cyclo-octatetraene)(η-cyclopentadienyl)-rhodium(I), 2375.
Reaction of *mer*-trichlorotris(dimethylphenylphosphine)-rhodium(III) with some sulphur ligands, 1818.
Stability and catalytic activity of some chlorohydridobis(phosphine)(silyl)rhodium(III) complexes, 2311.
Syntheses and properties of some oxalatorhodium(III) complexes, 709.
of alkylideneamido(carbene)rhodium(I) complexes and related chemistry; the crystal and molecular structure of *trans*-$Rh[N{:}C(CF_3)_2][C(NMeCH_2)_2](PPh_3)_2$, 1494.
properties, and crystal structure of octaethylporphin bis[*cis*-dicarbonyldichlororhodate(I)], 1236.
structure, and dynamic behaviour of bis(π-allyl)rhodium(III) cations, 333.
Tertiary-phosphine and -arsine complexes of rhodium(III), 1702.
Ruthenium(II) arene complexes formed by dehydrogenation of cyclohexadienes with ruthenium(III) trichloride, 233.
Cationic ruthenium(II) complexes by electrophilic attack on a π-allyl ligand. Reactivity of co-ordinated ligands. Part XVIII, 951.
complexes containing the cyclic carbene 2-oxacyclopentylidene, 351.
with sulphur ligands, 739, 754.
Crystal and molecular structure of *cis*-bis(diethylphosphinodithioato)bis(dimethylphenylphosphine)ruthenium(II), 1867.
of thiocarbonylbis(triphenylphosphine)rutheniumtri-μ-chloro-chlorobis(triphenylphosphine)ruthenium, 1139.
Crystal structure of acetatohydridotris(triphenylphosphine)ruthenium(II): a hydrogenation catalyst with a strained octahedral co-ordination, 390.
of *trans*-bis(acetone hydrazone)tetrakis(trimethyl phosphite)ruthenium(II) bis(tetraphenylborate), 2406.
cyclo-octadiene complexes, 2093.
Formation of 1,2,3,3a,6a-η-1,4,5,6-tetrahydropentalenyl complexes, 658.
Isomerisation of pent-1-ene catalysed by solutions of some ruthenium complexes, 1519.
Kinetic studies on the reaction of tricarbonyl(1—3,6-η-cyclo-octadiene)ruthenium with tertiary phosphines and phosphites, 241.
new thiocarbonyl complexes, 1134.
Preparation, and crystal and molecular structure of π-cyclopentadienyl-η-(tetraphenylborato)ruthenium-(II), 1302.
Reaction of benzyltriphenylphosphonium bicyclo[2.2.1]-hepta-2,5-dienecarbonyltrichlororuthenate(II) with Lewis bases, 1640.
of bicyclo[3.2.1]octa-2,6-diene with dodecacarbonyltriruthenium, 145.
between hydridobis(triphenylphosphine)(π-cyclopentadienyl)ruthenium and acetylenes, 106.
of organo-silyl- and -germyl-(carbonyl)ruthenium complexes with cyclo-octatrienes, 662.
of μ_3-oxo-triruthenium carboxylates with π-acid ligands, 786.
Reinvestigation of the crystal and molecular structures of penta-amminenitrosylruthenium trichloride hydrate and *trans*-tetra-amminehydroxonitrosylruthenium dichloride, 1600.
Substitution reactions of *cyclo*-tris(tetracarbonylruthenium)(3*Ru–Ru*), 1860.

S

Salt-like behaviour of covalent halides. Part IV. Electrolytic conductance of solutions of thionyl chloride, and its reactions with silver salts and Lewis acids in acetone, 1199.
Sandwich complexes, transition-metal, He(I) photoelectron spectra, 304.
Scandium. Crystal and molecular structure of trichlorotris(tetrahydrofuran)scandium(III), 921.
Silicates, hydrothermal chemistry, 2054, 2060, 2123, 2126.
layered. An iron-57 Mössbauer study of the role of lattice-substituted iron in the benzidine blue reaction of montmorillonite, 2211.
X-Ray investigation of tetrahydropyran and 1,4-dioxan intercalates of montmorillonite, 2286.
uptake of benzidine and related organic molecules by montmorillonite, 2207.
Silicon. Carbene intermediates in pyrolyses of some perhalogenoalkylsilanes, 2509.
Crystal and molecular structure of [iminobis(ethyleneoxy)]diphenylsilane, 2051.
Further silanes containing the bis(trifluoromethyl)amino-group, 1852.
Organosilicon chemistry. Part XII. Stability and catalytic activity of some chlorohydridobis(phosphine)-(silyl)rhodium(III) complexes, 2311.
polyfluoroalkyl compounds. Part XII. Reactions of trichlorosilane with 2-chloro- and 2-bromo-1,1-difluoroethylene, 2305.
vinyl derivatives, 2537.

Silver. Dialkyl phenylphosphonite and alkyl diphenylphosphinite derivatives, **1309**.
-(I), kinetics of reduction by ascorbic acid, **1460**.
salts, Lewis acids, and thionyl chloride in acetone, conductance, **1199**.
Single-crystal electronic and e.s.r. spectra of four trigonal bipyramidal copper(II) complexes, **1005**.
Sodium. Crystal structure of bis-[*N*,*N*′-ethylenebis(salicylideneiminato)copper(II)]perchloratosodium–*p*-xylene, **841**.
liquid, reaction with the oxides of niobium and tantalum, **55**.
Solubility of tin and germanium in liquid sodium, **1541**.
Solubility of sodium hexahydroxoantimonate in water and in mixed aqueous solvents, **1084**.
Solvolysis of methyltin chlorides by strong-acid solvents, **2157**.
Spectral investigation of the products of reactions of cyanide ion with oxo-bridged binuclear iron(III) complexes of 1,10-phenanthroline and 2,2′-bipyridyl, **680**.
Spectroscopic studies on some compounds of platinum(II) with 2,2′-bipyridyl and its analogues, **2133**.
Spectroscopy at very high pressures. Part II. Far-infrared spectra of some complex chlorides $M^{I}_{2}MCl_{6}$, **407**.
Square-planar complexes of pentane-2,4-dithione (dithioacetylacetone), crystal structures of the cobalt(II) and nickel(II) derivatives, **622**.
Stability of the metal–carbon–halogen system. Part I. The preparation and properties of some platinum(II)–and palladium(II)–vinyl complexes, **34**.
Stereochemistry of five-co-ordination. Part III. Compounds of stoicheiometry bis(unidentate ligand)(tridentate ligand)metal, **612**.
in racemic and optically resolved forms of a five-co-ordinate complex, **2117**.
Steric effects in the reversible oxygenation of cobalt–Schiff-base complexes. Part II. Crystal and molecular structure of [*NN*′-butylenebis(salicylideneiminato)]pyridinecobalt(II), **498**. Part III. Crystal and molecular structure of the *meso*-form of *NN*′-cyclohexylenebis(salicylideneiminato)cobalt(II), **1606**.
in substitution reactions of *cis*- and *trans*-arylchlorobis(triethylphosphine)platinum(II) complexes; new kinetic data for the approach to the problem of transition state geometry, **1377**.
Structural and mechanistic studies of co-ordination compounds. Part VIII. Preparation, aquation, and base hydrolysis of some *trans*-monosubstituted tetra-amine-cobalt(III) cations, **1**. Part X. Steric effects in aquation of some octahedral cobalt(III) complexes, **2419**.
theory for non-stoicheiometry. Part I. Defect fluorite-type structures lanthanoid oxides MO_x with $1{\cdot}7 \leqslant x \leqslant 2{\cdot}0$, **1335**.
Structure and basicity. Part VIII. Oligomeric dimethylaminocyclophosphazenes, **1618**.
and bonding in (dimethyl acetylenedicarboxylate)bis(triphenylphosphine)palladium, **1038**.
in some simple tungsten compounds. Deductions from tungsten-182 Mössbauer spectra, **1314**.
and reactions of bis[tricarbonyl(π-cyclopentadienyl)chromium], **1625**.
of matrix-isolated tetracarbonyliron(0), **2276**.
of monoadducts of tris(β-diketonato)lanthanoid shift reagents, **617**.
Studies of platinum(II) complexes by heteronuclear magnetic double resonance, **324**.
Sulphoxide complexes of oxobis(oxalato)niobates(v), **165**.
Sulphur. Complexes with sulphur and selenium donor ligands. Part III. The electronic spectrum of bis(dimethyl phosphorodithioato)-2,9-dimethylphenanthrolinenickel(II), **1420**.
Formation of the blue trisulphur radical anion S_3^-, **631**.
–nitrogen compounds. Part I. Crystal and molecular structure of bis(diphenylmethylene)trisulphurtetranitride, **1357**. Part II. Molecular and crystal structure of triphenylphosphine trisulphur tetranitride, **1990**.
Preparation and properties of difluoro(heptafluoroisopropyl)nitrilosulphur, **571**.
Surface and intercalate chemistry of layered silicates. Part I. General introduction and the uptake of benzidine and related organic molecules by montmorillonite, **2207**. Part II. An iron-57 Mössbauer study of the role of lattice-substituted iron in the benzidine blue reaction of montmorillonite, **2211**. Part III. *X*-Ray investigation of tetrahydropyran and 1,4-dioxan intercalates of montmorillonite, **2286**.
Synthesis and molecular structure of an inorganic zwitterion: trichloro{[2-(diphenylphosphinyl)ethyl]dimethylammonium}copper(II), **1031**.
and solid-state crystal structure of [2-(diphenylphosphinoyl)ethyl]diethylammonium dichlorocuprate(I), containing a discrete $CuCl_2^-$ anion, **258**.

T

Tantalum alkyls, preparation using zinc and aluminium alkylating agents, **2187**.
Co-ordination compounds of trimethyltantalum(v) dichloride, **1080**.
Crystal and molecular structure of dichlorobis(*NN*-dicyclohexylacetamidinato)methyltantalum(v), **1973**.
of trichlorobis(*NN*′-di-isopropylacetamidinato)tantalum(v), **1579**.
Heat of formation of potassium hexachlorotantalate(IV), **2505**.
Methyltantalum(v) oxohalide complexes, **1433**.
oxides, reaction with liquid sodium, **55**.
penta-alkoxide co-ordination complexes, preparation and characterisation, **585**.
Tautomeric equilibria in solutions of $\{LCo(CO)_3\}_3$ complexes (L = tertiary phosphine, arsine, or stibine), **6**.
Technetium. Vibrational spectrum of ditechnetium decacarbonyl in the C–O stretching region, **440**.
Tellurium. Crystal and molecular structure of tetraphenylarsonium aquotetrachlorohydroxotellurate(IV), **1545**.
Preparation and properties of mono- and di-alkoxotellurium(VI) fluorides, **2029**.
tetrachloride, vibrational spectrum, **1747**.
Temperature dependence of proton chemical shifts in aqueous silver salts. The association shift of water, **175**.
-dependent after-effects of the cobalt-57–iron-57 electron-capture reaction in $Cd_3[^{57}Co(CN)_6]_2{\cdot}12H_2O$, **319**.
Thallium(II), aqueous chemistry. Part I. Kinetics of reaction of thallium(II) with cobalt(II) and iron(III) ions and oxidation–reduction potentials of thallium(II), **1367**.

Thallium (*contd.*)
-(I) fluoride, crystal structure and lattice energy, 1907.
-(I) hexafluoroacetylacetonate complexes with nitrogen containing ligands, 655.
-(III) oxidation of catechol and quinol, kinetics, 1940.
(*o*-dihydroxybenzene) in aqueous perchlorate media, kinetics, 721.
Studies in the chemistry of bonds between metals: transition-metal carbonyl derivatives of thallium, 828.
Theoretical study of the most stable conformations of *NN'*-dimethylthiourea, *NNN'*-trimethylthiourea, and the methyl ester of dithiocarbazic acid, 41.
Thermal decomposition and autoxidation of cobalt acetylacetonates, 465.
of some acyl(dialkyl)-, dialkyl(allyl)-, dialkyl(benzyl)-, and trialkyl-halogenobis(dimethylphenylphosphine)-platinum(IV) complexes, 1613.
of primary and secondary amine adducts of triethylaluminium and diethylaluminium halides, 1961.
Thermochemical studies of Vitamin B_{12}. Part I. Thermodynamic parameters for acid dissociation of aquocobalamin, 2205.
Thermochemistry of alkali metal hexafluoromolybdates(V) and hexafluorotungstates(V), 1064.
of platinum–benzoyl and platinum–dibenzylideneacetone complexes, 462.
Thermodynamic behaviour of complexes with 5,6-membered condensed chelate rings: 1,4,8-triazaoctane, 2403.
considerations in co-ordination. Part XV. Potentiometric and calorimetric study of the complexes formed between protons, first transition series metal ions, and asparaginate and glutaminate anions, 1117. Part XVI. Formation constants for the cyclopentylamine– and cyclohexylamine–proton, cobalt(II), nickel(II), copper(II), and zinc(II) systems, 1121. Part XVII. Glass and chloride electrode studies of carcinostatic ternary and quaternary complexes of nickel and palladium(II) ions with asparaginate and chloride ligands, 1123. Part XVIII. Formation constants for cadmium(II)–amino-acid complexes as determined by glass and solid-state cadmium-electrode potentiometry, 1186. Part XIX. *In vitro* studies of complexing equilibria involved in oral iron(II) therapy, 1849.
study on oxime complexes: the relative co-ordinating power of ketone, oxime, and amine functional groups, 47.
Thiocyanate and thiocyanatoferrate(III) complexes, liquid–liquid extraction with tris(3,5,5-trimethylhexyl)amine, 213.
Thiourea, nitrosation, electrophilic, at sulphur and nitrogen, 2469.
substituted. Theoretical study of the most stable conformations of *NN'*-dimethylthiourea, *NNN'*-trimethylthiourea, and the methyl ester of dithiocarbazic acid, 41.
Thorium. Phosphine oxide complexes of thorium(IV) nitrates, 889.
reaction with lithium nitride, 2166.
Tin. Crystal and molecular structure of 2,2'-bipyridyldichlorodiphenyltin, 1723.
of dimeric dimethyltin nitrate hydroxide [di-μ-hydroxo-bis(dimethylnitratotin)], 475.
Crystal structure of polymeric tris(trimethyltin) chromate hydroxide, 477.
Divinyltin bistrifluoroacetate and its reactions with sodium salts of metal-carbonyl anions, 1306.
E.s.r. spectra of radicals in irradiated organotin compounds, 1966.
Functionally substituted organotin compounds. Part IV. The use of protecting groups in the formation of 4-oxopentyltin compounds, 1769.
-(IV) halide promoted vinyl rearrangement of hexafluorobuta-1,3-diene–platinum complexes, 1194.
-(II) halides, reaction with hexacarbonylbis(tri-n-butylphosphine)dicobalt, 2257.
-119 Mössbauer spectra of organotin oxines in applied magnetic fields, 470.
of six-co-ordinate organotin(IV) compounds with oxygen donors: structure, bonding, and correlation with antimony(V) e^2qQ values, 2355.
of trichlorotin complexes, 2254.
solubility in liquid sodium: the sodium–tin partial phase diagram, 1541.
Solvolysis of methyltin chlorides by strong-acid solvents, 2157.
Structural studies in main-group chemistry. Part VII. Crystal structure of *N*-benzoyl-*N*-phenyl-*O*-(triphenylstannyl)hydroxylamine, 2298.
vinyl derivatives, 2537.
Titanium(III) bromoaquo-complexes, 644.
complexes with aromatic Schiff's bases, redox reactions in their formation, 460.
cleavage of the sulphur–sulphur bond in alkyl and aryl disulphides, 2433.
Physicochemical study of titanium(III) mononuclear, dinuclear, and dimeric polyaminocarboxylates formed in aqueous and frozen aqueous solution, 1396.
Reactions of various organotitanium compounds with potentially bidentate alkenyloxo- and related ligands, 1462.
Transition metal–carbon bonds. Part XXXVI. Internal metallations of platinum–dimethyl(1-naphthyl)phosphine and –dimethyl(1-naphthyl)arsine complexes and attempts to effect similar reactions with palladium, 139.
complexes containing phosphorus ligands. Part XIII. Dialkyl phenylphosphonite and alkyl diphenylphosphinite derivatives of silver, gold, and the platinum metals, 1309.
complexes with pyridine-2-thiol, 946.
derivatives of arenediazonium ions. Part VI. Ligand substitution reactions of some iron(I) arenediazo and nitrosyl cations, 1430.
ion complexes with 2-substituted pyridines with unsaturated side chains, 2194.
Trichloronitrosomethane, pyrolysis, 448.
Trifluoroacetate complexes of cobalt(II), nickel(II), and copper(II) with pyridine-type ligands. Part II. Preparation, vibrational and electronic spectral properties of cobalt(II) and nickel(II) complexes, 864. Part III. Nuclear magnetic resonance studies of cobalt(II) complexes in solution, 870.
group, inorganic compounds containing. Part I. Pentacarbonyl(trifluoroacetato)manganese and substituted derivatives, 735.
Trifluoromethyliodine(V) tetrafluoride and related compounds, 119.
Trimethyl phosphite complexes of iron(II): preparation, characterisation, and Mössbauer spectra, 87.

Tungsten benzene-, *m*-fluorobenzene-, *p*-fluorobenzenediazo complexes, ^{19}F n.m.r. and ^{15}N i.r. studies, **1837**.
bis(π-cyclopentadienyl) alkyl, alkynyl, and olefin complexes, **1324**.
carbonyl complexes with 1,2-bis(isopropylseleno)ethane, a conformational study of a chelated selenium ligand, **288**.
-(II) clusters, oxidation to tungsten(III) clusters, **506**.
Crystal and molecular structure of tricarbonyliodotris(dimethylphenylphosphino)tungsten(II) tetraphenylborate, **1654**.
Crystal structure of sodium tetratungstate, **2170**.
1,4-diselenantetracarbonyl complex, **1872**
halide sulphides and halide selenides, **2191**.
heptafulvene complexes, **293**.
Heteropolytungstate complexes of the lanthanoid elements. Part III. Crystal structure of sodium decatungstocerate(IV)–water (**1/30**), **2021**.
-182 Mössbauer spectra on some simple tungsten compounds, **1314**.
organometallic complexes as catalyst precursors in the disproportionation of propene, **1742**.
pentafluoride and oxide tetrafluoride, enthalpies of formation, **1062**.
Structure of crystalline WOF_4; vibrational spectra and vapour density, **81**.
Thermochemistry of alkali metal hexafluorotungstates(V), **1064**.
tri-iodide, enthalpy of formation, **399**.
Two new preparative routes to, and ^{57}Fe Mössbauer and i.r. spectroscopic measurements on, the salts of μ-halogeno-bis[(π-cyclopentadienyl)dicarbonyliron(II)] cations, **78**.

U

Ultraviolet–visible spectrum, and kinetics of formation and decomposition, of penta-aquahydridochromium(III) and chromium(I) in aqueous perchlorate solutions, **2559**.
Uncatalysed and metal ion-catalysed hydrolysis of 8-quinolyl sulphate, **9**.
United atom models for polyatomic ligands. Part IV. Trisubstituted radical and anion derivatives of Group IV, **1889**.
Unstable intermediates. Part CXLI. E.s.r. spectra of various tin and lead centres in their irradiated salts, **731**. Part CXLIV. Organomercury radicals in irradiated alkylmercury(II) halides and dimethylmercury, **1086**. Part CXLVII. E.s.r. spectra of radicals in irradiated organotin compounds, **1966**. Part CXLIX. An e.s.r. study of various phosphinyl radicals formed by solid-state radiolysis, **2145**. Part CL. Nitrogen dioxide, nitrogen trioxide, and nitrate(2−) in irradiated lead(II) nitrate, e.s.r. evidence for electron transfer to and from lead(II) ion, **2247**.
Uranium, Auger spectroscopy, **493**.
Mixed complexes of *N*,*N*′-ethylenebis(salicylideneiminato)uranium(IV), **1102**.
Nature of the dioxobis(tropolonato)uranium(VI) system and its complexes with neutral ligands, **1933**.
oxide phases, *X*-ray photoelectron spectroscopy, **1296**.
Phosphine oxide complexes of uranium(IV) and dioxouranium(VI) nitrates, **889**.
Uranyl ion, electronic spectra and magnetic circular dichroism, the effect of reduced symmetry on the spectra, **51**.

V

Vanadinite, single-crystal vibrational spectrum, **1505**.
Vanadium–aluminium complex obtained by mixing dichlorobis(η-cyclopentadienyl)vanadium with ethylaluminium dichloride, **2390**.
complexes, cleavage of the sulphur–sulphur bond in alkyl and aryl disulphides, **2433**.
Crystal and molecular structure of tetrakis(phenyldithioacetato)vanadium(IV) and tetrakis(dithiobenzoato)-vanadium(IV), **1258**.
Kinetics of reaction between vanadium(V) and iodide ions in the presence of oxygen, **793**.
-(II) oxidation by halogen radical anions, **1142**.
-(V) oxidation of catechol and quinol, kinetics, **1940**.
of phosphorous acid, kinetics, **226**.
-(V) oxide tribromide, vanadium(IV) oxide dibromide, preparation and reaction with ammonia, **569**.
Polarographic behaviour in acetone of complexes formed between the bis(π-cyclopentadienyl)vanadium(IV) group and some 1,1-dithio-chelates, **773**.
-(II) reduction of μ-amido-μ-chloro- and μ-amido-μ-bromo-bis[tetra-amminecobalt(III)] complexes, **1583**.
-(II) stepwise reduction of the μ-amido-μ-superoxo- and μ-amido-μ-peroxo-bis[bis(ethylenediamine)cobalt-(III)] complexes, **1550**.
Vanadyl ion, magnetic circular dichroism spectroscopy, **813**.
Vapour density and vibrational spectra of $MoOF_4$ and WOF_4. The structure of crystalline WOF_4, **81**.
pressure of protactinium pentabromide, **1473**.
Vibrational perturbations in tetrahedral XY_4 molecules or ions, configurations of weak interactions, **2289**.
spectra of crystalline trichloromercurate(II) salts, **1180**.
of di(alkylthio)mercury(II) compounds, **2140**.
of halogenotrimethylplatinum(IV) complexes and related compounds, **2415**.
of some monosubstituted-π-arene tricarbonylchromium complexes and of methyl benzoate, **558**.
and n.m.r. parameters of some platinum(IV) complexes $[PtX_4L_2]$ and $[PtX_5L]^-$ (X = Cl, Br, or I; L = NMe_3, PMe_3, $AsMe_3$, or SMe_2), **523**.
(single crystal) of apatite, vanadinite, and mimetite, **1505**.
(single crystal) of beryl and dioptase, **1502**.
of square-planar tetrahalogeno-gold(III), -palladium(II), and -platinum(II) anions in solution, **1479**.
of tricarbonyl(π-cyclopentadienyl)manganese, bis[tricarbonyl(π-cyclopentadienyl)molybdenum], and their deuteriated derivatives, **155**.
and vapour density of $MoOF_4$ and WOF_4, **81**.
spectrum of tellurium tetrachloride, **1747**.
Vitamin B_{12a}, catalytic reduction of hydrogen ions in solution, **2475**.
thermodynamic parameters for acid dissociation, **2205**.

W

Weak interactions from vibrational perturbations in tetrahedral XY_4 molecules or ions, **2289**.

X

Xenon difluoride, complexes with niobium pentafluoride and some organic bases, ^{93}Nb n.q.r. studies, 205.
enthalpies of formation of 1:1, 1:2, and 2:1 adducts with antimony, niobium, and tantalum pentafluorides, 1740.

Y

Yttrium, crystal and molecular structure of hexakisantipyrineyttrium tri-iodide, 229.

Z

Zeolite growth, replacement of aluminium by boron, 1049.
(Na, Me_4N)-V, synthetic, characterisation, 405.
Zinc(II) bis(diethylenetriamine) dibromide monohydrate, crystal structure, 1870.
chloride and bromide complexes in aqueous ammonium nitrate melts, 985.
Crystal structure of the hydrated complex bis(pyridoxylidene-L-valinato)zinc(II), 2228.
nitrates, extraction by methyl diphenyl phosphate, 1476.

JOURNAL OF THE CHEMICAL SOCIETY

The scale and cost of present day publication make it necessary to ask authors to co-operate with the Society to the full. To facilitate this the Society will publish a sequence of notices to authors within these covers. It is intended to deal with all major aspects of the preparation, submission, content, and handling of articles intended for the *Journal*. Careful attention to these notices will help authors to have their work published more easily and rapidly.

NOTICES TO AUTHORS—No. 1

General Policy

The *Journal of the Chemical Society* is a medium for reporting selected original and significant contributions to new chemical knowledge. Articles which do not advance knowledge (*e.g.* reviews) will not normally be considered for publication in the *Journal*.

All contributions are judged on the criteria of (i) originality and quality of scientific content and (ii) appropriateness of the length to content of new science. Thus, papers reporting results which would be routinely predicted or result from application of standard procedures or techniques are unlikely to prove acceptable in the absence of other attributes which themselves make publication desirable.

Although short articles are acceptable, the Society strongly discourages fragmentation of a substantial body of work into a number of short publications. Unneccessary fragmentation will be a valid reason for rejection of manuscripts.

The *Journal* is published in five Transactions: Dalton, Inorganic; Perkin I, Organic and Bio-organic; Perkin II, Physical Organic; Faraday I, Physical; Faraday II, Chemical Physics.

Authors are requested to indicate, at the time they submit a typescript, the Transactions for which it is intended. Should this seem unsuitable, the Editor will inform the author.

Conditions Governing Acceptance

Contributions which have appeared or have been accepted for publication with essentially the same content in another journal or which incorporate freely available printed work will not be published in the *Journal* except by permission of the Council. This restriction does not apply to results previously published in materially abbreviated form, as a paper presented at a symposium, as a communication to *Chemical Communications*, as a letter to the Editor of other periodicals, or as a patent.

Contributions are accepted by the Society on the understanding that the authors (*a*) have obtained any necessary authority for publication, and (*b*) will, if requested, surrender their copyright to the Society.

Authors are solely responsible for the factual accuracy of their contributions.

Since the Society reserves the right to retain all typescripts sent to it, authors are advised to keep copies. When contributions have been submitted for publication the authors are not at liberty, save by permission of the Society, to withdraw or delay them or to publish them elsewhere until after publication by the Society.*

Submission of Articles

Typescripts should be addressed to: The Director of Publications, The Chemical Society, Burlington House, London W1V 0BN.

Three copies of the typescript (a top copy and two good quality carbon or Xerox copies) are required.

Rapid publication is aided by careful preparation of text and illustrations and strict adherence to the format and conventions of individual Transactions; detailed Instructions to Authors are available on request from the Editor.

Particular attention is drawn to the use of (i) SI units and associated conventions, (ii) I.U.P.A.C. nomenclature for compounds, and (iii) standard methods of literature citation.

Administration

Receipt of a contribution for consideration will be acknowledged immediately by the Editorial Office. The acknowledgement will indicate the paper reference number assigned to the contribution. Authors are particularly asked to quote it on all subsequent correspondence.

* Attention is drawn to the following extract from the Society's Bye-Laws:

84. (i) Every Fellow who, with a view to its publication by the Society, submits a paper or other communication shall by so doing undertake:

(*a*) that his communication has not been published and that he will not permit its publication before it is accepted or declined by the Society, and

(*b*) that if it is accepted for publication the Society shall thereupon become entitled to the copyright therein and that he will, when called on to do so, assign, insofar as he is permitted to do so, to the Society the said copyright, including the sole right to print and publish in any form, in any language, and in any part of the world, the whole or any part of his communication. The Council shall not refuse any reasonable request from any author to reproduce his own work elsewhere in whole or in part.

The attention of every Fellow who submits a paper or other communication for publication shall be drawn to this Bye-Law.

(ii) Any person other than a Fellow who submits any paper or other communication with a view to its publication shall be required to sign an undertaking in the terms set out above.

NOTICES TO AUTHORS—No. 2/1968

Presentation of Papers

Every latitude, consistent with brevity, in the form and style of papers is permitted, and no pattern for either is prescribed. Certain elements are, however, common to all papers, and these are considered.

Organization of Material

Title.—The choice of a title for a paper is of the greatest importance, since it is from the title that the important key-words used in information retrieval are taken. Not only should the title clearly and accurately indicate the content of that paper but also it should be as specific as the content and emphasis of the work permits. Brevity in a title, though desirable, should be balanced against its accuracy and usefulness.

Abbreviations, symbols, and formulae are generally not permitted, and it is usual to spell out terms where necessary.

Reference to the preceding part of a series must be made as the reference (numbered 1) to the title in the form: 'The Chemistry of Vitamin B_{12}. Part VIII.[1] Controlled Potential Reduction of Vitamin B_{12a}.' [Reference to a preceding part in the references is in the form: Part VII, H. A. O. Hill, B. E. Mann, J. M. Pratt, and R. J. P. Williams, *J. Chem. Soc.* (*A*), 1968, 564. If the page number is unknown because the paper has still to be accepted, or is in the press, the paper number should be given.]

Summary.—Every paper for the *Journal* must be accompanied by a summary (50—250 words) setting out briefly and clearly the objects and results of the work. The summary should give a reader a clear idea of what the work has achieved and should be *independent* of the main text. This last point is of particular importance in connection with the names of compounds which, although they may be accompanied by a number which refers to a displayed formula in the body of the text, must be comprehensible without reference to this formula. Thus,

> Apetalactone, a new triterpene lactone isolated from *Calophyllum apetalum* Willd. has been shown to be 4,28-dihydroxy-3,4-secofriedelan-3-oic acid lactone (IIa).
>
> or
>
> Reaction of sodium hydride with ω-hydroxyalkyltriphenylphosphonium salts $Ph_3P^+[CH_2]_nOH\ X^-$ (I) has been investigated. The salt (I; $n = 1$, X = I) gave triphenylphosphine and formaldehyde. The salt (I; $n = 2$, X = I) gave triphenylphosphine oxide and ethylene. Similar reactions were carried out with ω-hydroxyalkyltriphenylarsonium (XIV) and ω-hydroxyalkyldimethylphenylammonium (XV) salts.

The summary should concern only the main subject of the work and its main conclusions; details of an involved argument or synthesis should not be included and, although classes of compounds prepared or discussed should be given rather than a list of compounds, key compounds in the work should be referred to.

Introduction.—This should give clearly and briefly, with relevant references, both the nature of the problem under investigation and its background.

Results and Discussion.—It is usual for the results to be presented first, and for them to be followed by a discussion of their significance. Only relevant results should be presented, and figures, tables, and equations should be used only for purposes of clarity and brevity. Data must not be reproduced in more than one form, *e.g.* in both figures and tables.

Experimental Section.—Descriptions of experiments should be given in detail sufficient to enable experienced experimental workers to repeat them; the degree of purity of materials should be given, as should the relative quantities used. Descriptions of established procedures are unnecessary. Standard techniques and methods used throughout the work should be stated at the beginning of the section. Apparatus should be described only if it is non-standard; commercially available instruments are referred to by their stock numbers (*e.g.* Perkin-Elmer 137 or Unicam SP 500 spectrophotometers). The accuracy of primary measurements should be stated. Unexpected hazards encountered during the experimental work should be noted. The detailed treatment of the Experimental section is dealt with in a forthcoming Notice to Authors.

Acknowledgements.—Contributors, other than co-authors, are acknowledged in a separate paragraph at the end of the paper; acknowledgements should be as brief as possible. Titles, Mr., Mrs., Miss, Dr., Professor, *etc.*, are given; degrees are not given. Organizations which operate on a commercial basis are not acknowledged.

Bibliographic References.—These are given on a separate sheet at the end of the manuscript and are referred to in the text by superior roman numerals. They must be distinguished from footnotes which are given at the bottom of the page to which they refer; they are referred to by an asterisk (*), dagger (†), *etc.* Bibliographic references and footnotes are the subject of Notice No. 3.

General Detail

Type Size.—It should be noted that since the Experimental section and the results are printed in smaller type than the theoretical part, division between the two should be clear-cut and frequent alternation is not advisable.

Brevity.—Because of the large volume of work submitted for publication, brevity in the presentation of papers is essential and, for this reason, certain tendencies are discouraged; these are as follows:

(*a*) Unnecessary division of work into separate parts of a series. Papers are in no way discouraged solely on grounds of length.
(*b*) Submission of fragmentary work when this can be included in a larger communication.
(*c*) Historical introductory paragraphs in cases when a simple statement of the accepted present position suffices.
(*d*) Undue elaboration of hypotheses.
(*e*) Over-detailed and verbose exposition of ideas.
(*f*) Excessive use of diagrams, for example, straight-line plots that can be adequately expressed as an equation together with, if necessary, a table of deviations.
(*g*) Duplication of data as between text, tables, and figures, *etc.*

(*h*) Details of the preparation of simple derivatives such as esters, ethers, semicarbazones, *etc.*, and slight variations of essentially the same technique. (Unless the conditions are critical, quantities are superfluous, and only an indication of reagents and/or conditions is required.)

Spelling.—Standard English spelling is used (*Oxford English Dictionary*), although latitude with respect to alternative spellings for certain words is allowed. Where one form or the other of a particular spelling is adopted it should be used consistently throughout a paper.

Punctuation.—Although punctuation follows standard English practice, the following conventions are observed:

(*a*) A comma is placed before ' and ' or ' or ' in a series such as ' oxygen, sulphur, and selenium ' or ' $\lambda_{max.}$ 237, 295, and 343 nm.'

(*b*) Parentheses, square brackets, and braces are used, as necessary, in that order, *i.e.* {[( )]}.

(*c*) When a word is followed by a punctuation mark the parenthetical phrase must be inserted before the latter, *e.g.* ' m.p. 234° (decomp.),' and not ' m.p. 234°, (decomp.)'.

(*d*) A colon is used to separate a ratio, as in 1 : 20 —not a solidus 1/20.

(*e*) Parenthetical expressions of the same physical quantity in different units are separated by a comma (3·9 g, 0·1 mol) (30 ml, 1 mol); expressions of different physical quantities are separated by a semicolon (2·9N; 30 ml) (*d* 0·88; 8 ml).

Hyphenation.—Hyphens are used for two purposes: to divide and to compound.

Division. It is common practice to divide words, particularly when in a sequence, when one part is common to several of the words; in such cases, the hyphen, representing the point of attachment to the common part, is always inserted, *e.g.* ' the chloro-, bromo-, and fluoro-naphthacenes,' ' the *o-*, *m-*, or *p*-nitrotoluenes,' or ' the oxo-naphthalenes and -naphthacenes.' It is not good practice, however, to detach both a common prefix and a common suffix in a series, *e.g.* ' the dihydroxy- naphthalene- and phenanthrene-diones,' since confusion can arise.

' Sections ' of class names such as diazo-ketone, alkyl-diamine, epoxy-nitro-sulphone, *etc.*, are linked by hyphens.

It is also Society usage to insert a hyphen after a prefix which ends in a vowel or y; the hydroxy-group, the aza-function, the carboxy-compounds, the nitro-derivatives, but the methyl group (note that hydroxy, acetoxy, carboxy, ethoxy, and methoxy are used and not hydroxyl, acetoxyl, carboxyl, ethoxyl, and methoxyl).

It is customary to separate a pair of the same letter when these letters (in the same fount) would not naturally fall together, *e.g.* butyl-lithium, iodo-octane.

Compounding. A hyphen is often necessary when words are compounded to form a single modifying adjective to precede the noun being modified, thus: ' a melting-point determination ' or ' a free-radical chain mechanism.' A hyphen is not needed when adverbs are compounded, as in ' an electrically heated oven,' or for two-word chemical names such as ' nitric acid solution.'

Miscellaneous uses of hyphens. Hyphens are used to set apart numbers, configurational letters, Greek letters, and italicized prefixes: 1,2,5-trimethylcyclohexane, D-*gluco*-hexose, *s*-trinitrobenzene, β-chlorophenethylbenzene, tri-μ-carbonyl-bis(tricarbonyliron), and 3-methylpent-*trans*-2-ene.

Use of Italics.—As described below, italics are indicated in a typescript by single underlining. Particular attention should be paid to the following uses.

(*a*) Foreign words and phrases and Latin abbreviations are given in italics: *e.g.*, *in toto*, *in vivo*, *ca.*, *cf.*, *i.e.*, *etc.*

(*b*) In the names of chemical compounds or radicals italics are used for prefixes (other than numerals or symbols) when they define the position of named substituents, or when they define stereoisomers: other prefixes are printed in roman. (*Note:* Initial capital letters are not to be used with italic prefixes or single-letter prefixes: full points are not to be associated with letter prefixes.)

o-, *m-*, and *p*-nitrotoluenes, but *ortho-*, *meta-*, and *para*-compounds (*o-*, *m-*, and *p-* are used only with specific names; *ortho-*, *meta-*, and *para-* are used with classes), *s*-trinitrobenzene, *NN*-dimethylaniline, *trans-* and *cis*-hexane-1,2-diol, *gem-* and *vic*-diols, benzil *anti*-oxime, 3-*O*-methyl-L-*glycero*-tetrulose.

At the beginning of a sentence the first roman letter after the prefix is capitalized: ' D-*glycero*-D-*gluco*-Heptose was subjected . . . ' and ' β-*p*-Tolylchalcone gave . . . '

(*c*) The scientific names of genera, species, and varieties are italicized.

(*d*) In references to periodicals their names or abbreviations are set in italics.

Note: Greek letters are not italicized, and should not therefore be underlined in typescripts.

Headings.—(*a*) Main sections (Experimental, Discussion, *etc.*): side-heading, small capitals, no final fullstop.

(*b*) Main side-heading: italics, initial capital letter for each noun and adjective, final fullstop and dash.

(*c*) Subsidiary side-heading: italics, first initial capital only, final fullstop but no dash.

(*d*) Further subdivision: by italic (*a*), (*b*), *etc.* (no following fullstop), and finally (i), (ii), *etc.* If (a), (b), *etc.* are used in front of a subsidiary side-heading, then for contrast these letters are not italicized.

Letters and prefixes which are ordinarily printed in italics are transferred for contrast into roman type in italicized phrases (see example below, where *O*-alkyl becomes O-*alkyl*).

Physicochemical symbols, however, remain in their prescribed form, and numerals and Greek letters are not italicized.

Examples:

EXPERIMENTAL

Preparation of Aliphatic Aldoximes and Ketoximes.—*Acetoxime* O-*alkyl ethers.* (*a*) Acetoxime (100 g) was dissolved . . .

Density (*d*) *of the Alcohol at* 295 K.—The series of aliphatic alcohols . . .

Note: In the above examples it should be noted that the type of print required to indicate italics, capitals, small capitals, *etc.* is shown by underlining; this convention must be strictly adhered to, *i.e.*

Single underlining for *italic* type
Double underlining for SMALL CAPITALS
Treble underlining for ORDINARY CAPITALS
Wavy underlining for **bold black** type

NOTICES TO AUTHORS—No. 3/1968

Bibliographic References and Footnotes

A clear distinction is made between bibliographic references and footnotes. The latter are used to present material which, if included in the body of the text, would disrupt the flow of the argument but which is, nevertheless, of importance in qualifying or amplifying the textual material. Such footnotes are referred to with the following symbols: *, †, ‡, §, ¶, ||, *etc.* [*Note:* Since an asterisk is used to indicate the author to whom correspondence should be addressed, its use early on in a paper is not advised; a dagger (†) is preferred.]

Bibliographic References.—Reference to the source of statements in the text is made by use of *superior numerals* at the appropriate place. The references themselves are given as footnotes at the bottom of the corresponding page in the final printed text. It is thus *essential* that bibliographic references are numbered in the order in which they will appear.

When citation of a paper is repeated the numeral previously given to that reference is to be used also at the second citation; the footnote is not repeated.

The position of the superior numeral should be chosen with care, particularly when it does not follow an author's name. If placed adjacent to punctuation, the numeral should normally be placed after the punctuation mark, *e.g.* 'This compound was shown to be the dienone,[3] which . . . '. It may be necessary to modify this rule, however, to avoid confusion, thus: 'In this way the method was found to be suitable for lead[2], tin[3], bismuth[4], and mercury[5].'

Particular care is necessary where a reference number is likely to be confused with a superscript numeral indicating a power index: '. . . which gave a value of 2·3 cm^3 . . . ' should be written as '. . . which gave a value[3] of 2·3 cm' or '. . . which gave a value of 2·3 cm (ref. 3)'.

Since it is usually difficult to print a table in a given position in the text, references within the table are best dealt with by taking the individual references into the printed footnotes to the tables and using a new reference number sequence therein. Should the references cited in the tables appear much earlier in the text, these earlier reference numbers may be used.

Journals. Journal titles must be abbreviated to the forms listed in Notice 4 of this series. The main principles which underlie these abbreviations are: (i) clarity to a chemist; (ii) a fullstop after each abbreviated word, but not after words in full; (iii) English and Latin adjectives have initial capital letters, other adjectives do not.

Books. Titles of books are cited in quotation marks, in upright letters, and the author(s), title, publisher, town, date (or edition, if more than one has been published), and page number (if required) must be given in that order:

C. J. M. Stirling, 'Radicals in Organic Chemistry,' Oldbourne Press, London, 1965, p. 69.

T. J. Suen, in 'Polymer Processes,' ed. C. E. Schildknecht, Interscience, New York, 1956, Vol. X, p. 295.

Patents. Patents should be indicated in the form: B.P. 367,450, 367,455-7. U.S.P. 1,171,230. G.P. 436,112-4. Jap.P. 20,101. Dates are indicated thus: B.P. 666,776/1956. Patents which are applied for must always be given a year, *e.g.* B.P. Appl. 102/1968.

Reports and Bulletins, etc.

R. A. Allen, D. B. Smith, and J. E. Hiscott, 'Radioisotope Data,' UKAEA Research Group Report AERE-R 2938, H.M.S.O., London, 1961.

'Collected Papers on Methods of Analysis for Uranium and Thorium,' Geological Survey Bulletin 1006, U.S. Government Printing Office, Washington D.C., 1954.

Material presented at meetings.

N. N. Greenwood, Abstracts, Anniversary Meeting of the Chemical Society, Glasgow, 1965, C1.

N. S. Anderson and D. A. Rees, in 'Proceedings of the Vth International Seaweed Symposium,' ed. E. G. Young and J. L. McLachlan, Pergamon Press, Oxford, 1966, p. 405.

Theses.

A. D. Mount, Ph.D. Thesis, University of London, 1967.

Reference to unpublished material. For material presented at a meeting, congress, or before a society, *etc.*, but not published, the following form is used:

[1] A. R. Jones, presented in part at the XXth Congress of the International Union of Chemistry, Paris, September, 1960.

For material accepted for publication, but not yet published, the following form is used:

[2] A. R. Jones, *J. Amer. Chem. Soc.*, in the press.

If the paper has been submitted to the Society, the paper number should be given:

[3] A. R. Jones, *J. Chem. Soc.* (*A*), in the press (8/556).

For material submitted for publication but not yet accepted the following form is used:

[4] A. R. Jones, submitted for publication in *Angew. Chem.*

For personal communications the following form is used:

[5] G. B. Ball, personal communication. (*Note:* the form, G. B. Ball, private communication, is inappropriate.)

If material is to be published but has yet to be submitted the following form is used:

[6] Unpublished data.

Names.—The names and initials of all authors are always given in the reference footnote; they must not be replaced by the phrase *et al.* This does not prevent some, or all, of the names being mentioned at their first citation in the cursive text: initials are not necessary in the text.

For Chinese and Spanish authors all names should be given as in the original, since the patronymic is not always given last in these languages. If co-authors are to be collectively cited, as in 'Smith and his co-workers' or 'Smith *et al.*,' the latter form is inappropriate unless the individual name 'Smith' appears first among the authors named in the original.

Composite References.—Whenever possible, composite references should be used rather than a series of individual references. The style for composite references is as follows:

[1] A. B. Jones, *J. Chem. Soc.* (*A*), 1967, 234.

[2] A. B. Jones, *J. Chem. Soc.* (*A*), 1966, 123; 1967, 234.

[3] A. B. Jones, *J. Chem. Soc.* (*A*), 1966, 123; *J. Amer. Chem. Soc.*, 1956, **78**, 1234.

[4] A. B. Jones, *J. Chem. Soc.*, 1956, 234; A. B. Jones and C. D. Brown, *J. Chem. Soc.* (*B*), 1967, 234, 1077; 1968, 599.

[5] A. B. Jones, *J. Amer. Chem. Soc.*, 1956, **78**, 1234; A. B. Jones and C. D. Brown, *ibid.*, 1957, **79**, 567; A. B. Jones and E. F. Green, *ibid.*, p. 999.

If only one paper from a composite reference is required for citation later, then two numbers may be assigned to the first citation (*e.g.* Jones[1,2]); alternatively, long composite references may be divided by letters, *e.g.*:

(*a*) A. B. Jones, *J. Chem. Soc.* (*A*), 1954, 467; (*b*) A. B. Jones and C. D. Brown, *J. Chem. Soc.* (*B*), 1967, 234.

A. B. Jones, *J. Chem. Soc.* (*A*), (*a*) 1953, 267; (*b*) 1954, 1742; (*c*) *etc.*

A composite reference may cite a previous reference in the form:

[12] A. B. Jones, *J. Chem. Soc.*, 1956, 234; C. D. Brown, ref. 5.

(*Note: ibid.* is used only within a given reference and not to refer from one reference number to another: the abbreviated title for the journal should be repeated for separate reference numbers.)

Idem, loc. cit., and *op. cit.* are not used in references.

Abbreviations of Journal Titles.—Abbreviations for journal titles are constructed on the following general principles:

(*a*) When the full title consists of a single word it is not abbreviated: *Nature, Experientia, Tetrahedron.*

(*b*) In other cases the title or words selected from it are abbreviated as far as is consistent with the general principles:

(i) The abbreviated title should still enable the reader or librarian to identify the journal with ease; it should be readily expansible into the original or into full words near to the original. Accordingly, many words are unsuitable for abbreviation: *Acta, Bergvesen, Brewing, Cercetari, Dansk, Finishing, Folyoirat, Food, Istanbul, Sinica.*

(ii) The same word, if abbreviated, is always abbreviated in the same way, irrespective of the full title of the journal in which the word appears.

(iii) Nouns and adjectives derived directly from them receive the same abbreviation; initial capital letters are used for nouns, and small (lower case) initial letters for adjectives (unless they form the first word of the abbreviated title), except that for English and Latin titles adjectives are also given initial capital letters. Examples: Chemie *Chem.*, chemische(n) *chem.*, Chemistry or chemical *Chem.*, Chimie *Chim.*, chimique *chim.*, Chimie or chimica *Chim.*, Belgique *Belg.*, belges *belg.*

(iv) Related words not strictly covered by clause (iii) are differentiated. Examples: Chemistry and chemical *Chem.*, but Chemists in full; Engineering (adjective and noun) *Eng.*, but Engineers in full.

(v) Special sources of possible confusion require special treatment. Examples: *Ind.* for Industry and industrial, but India(n) in full; *Anal.* for Analele, *Analyt.* for Analytical, *Ann.* for Annals, Annales, Annalen, Annali, or Annual, but the full words for Anales, Analyst, and Annuaire.

(*c*) 'The', 'a', 'of', and 'and', as well as their equivalents in other languages, are omitted, except for rare cases where they seem essential for clarity, as in *Chem. and Ind.* (Chemistry and Industry, not Chemical Industry or Industrial Chemistry).

(*d*) All abbreviations are followed by a fullstop (full point); full words in references do not require to be followed by a fullstop.

(*e*) Names of countries are added, without punctuation, when they form part of the full title, as in *J. Chem. Soc. Japan* (Journal of the Chemical Society of Japan) or *Bull. Soc. chim. France* (Bulletin de la Société chimique de France; the 'France' may not be omitted here as the list contains two other *Bull. Soc. chim.* as well as *Bull. Soc. Chim. biol.*). The country of origin is added in parentheses when needed to avoid confusion, as in *Ann. Chim.* (*France*) (Annales de Chimie) and *Ann. Chim.* (*Italy*) (Annali di Chimica), and for some titles of Japanese and translations from Russian journals, as in *Pharm. Bull.* (*Japan*) and *J. Gen. Chem.* (*U.S.S.R.*).

(*f*) The following long-established extreme abbreviations are retained: *Ber.* (since 1945 this journal has been superseded by *Chem. Ber.*); *Compt. rend.*; *Gazzetta*; *Annalen.*

NOTICES TO AUTHORS—No. 4/1968

List of Abbreviations for Periodicals most commonly found in Chemical Papers

The following list is compiled from those journals which are received in the Chemical Society Library. Since journal titles and their abbreviations are printed in italics, they must be underlined in the manuscript.

Accounts Chem. Res.
Acta Acad. Aboensis, Math. Phys.
Acta Biochim. Biophys. Acad. Sci. Hung.
Acta Biochim. Iran.
Acta Biochim. Polon.
Acta Chem. Scand.
Acta Chim. Acad. Sci. Hung.
Acta Cryst.
Acta Metallurgica
Acta Phys. Acad. Sci. Hung.
Acta Phys. et Chem. Szeged.
Acta Polytech. Scand. (Chem.)
Acta Vitaminol.
Adv. Alicyclic Chem.
Adv. Analyt. Chem. Instrumen.
Adv. Appl. Microbiol.
Adv. Carbohydrate Chem.
Adv. Catalysis
Adv. Chem. Eng.
Adv. Chem. Phys.
Adv. Clin. Chem.
Adv. Colloid Interface Sci.
Adv. Enzymol.
Adv. Fluorine Chem.
Adv. Food Res.
Adv. Free-Radical Chem.
Adv. Heterocyclic Chem.
Adv. Inorg. Chem. Radiochem.
Adv. Lipid Res.
Adv. Macromol. Chem.
Adv. Magn. Resonance
Adv. Org. Chem.
Adv. Organometallic Chem.
Adv. Pest Control Res.
Adv. Petrol. Chem.
Adv. Photochem.
Adv. Phys.
Adv. Phys. Org. Chem.
Adv. Protein Chem.
Adv. Quantum Chem.
Adv. Struct. Res. Diffraction Methods
Advancement Sci.
Afinidad
Agric. and Biol. Chem. (Japan)
Agric. Chem.
Agrokém. és Talajtan
Allg. prakt. Chem.
Ambix
Amer. Ceram. Soc. Bull.
Amer. Dyestuff Reporter
Amer. Inst. Chem. Engineers J.
Amer. J. Pharm
Amer. J. Sci.
Amer. Perfumer
Anais Acad. brasil. Cienc.
Anais Assoc. brasil. Quím.
Anal. Sti., Univ. "Al. I. Cuza" Iasi. Sect. Ic
Anales Asoc. quím. argentina
Anales Bromatol.
Anales de Quím.
Analyst
Analyt. Biochem.
Analyt. Chem.
Analyt. Chim. Acta
Analyt. Letters
Angew. Chem.
Angew. Chem. Internat. Edn.
Angew. makromol. Chem.
Ann. Acad. Sci. Fennicae
Ann. Chim. (France)
Ann. Chim. (Italy)
Ann. Endocrinol.
Ann. Fals. et Expertise chim.
Ann. Inst. Pasteur
Ann. New York Acad. Sci.
Ann. pharm. franç.
Ann. Physik
Ann. Physique
Ann. Report Fac. Pharm., Kanazawa Univ.
Ann. Report Inst. Seaweed Res.
Ann. Report ITSUU Lab.
Ann. Report Sankyo Res. Lab.
Ann. Reports Medicin. Chem.
Ann. Rev. Biochem.
Ann. Rev. Microbiol.
Ann. Rev. N.M.R. Spectroscopy
Ann. Rev. Phys. Chem.
Ann. Rev. Plant Physiol.
Ann. Soc. sci. Bruxelles
Ann. Stazione chim.-agrar. sper. Roma
Ann. Surveys Organometallic Chem.
Ann. Univ. M. Curie-Sklodowska, Sect. AA
Ann. Univ. Sci. Budapest, Sect. Chim.
Annalen
Appl. Spectroscopy
Arch. Biochem. Biophys.
Arch. Pharm.
Arch. Sci.
Arkiv. Fysik
Arkiv Kemi
Armyan. khim. Zhur.
Arzneim.-Forsch.
Atti Accad. naz. Lincei, Rend. Classe Sci. fis. mat. nat.
Austral. J. Biol. Sci.
Austral. J. Chem.
Austral. J. Phys.
Azerb. khim. Zhur.

Ber. Bunsengesellschaft Phys. Chem.
Berg- u. hüttenmänn. Mondash. montan. Hochschule Leoben
Biochemistry
Biochemistry (U.S.S.R.)
Biochem. Biophys. Res. Comm.
Biochem. J.
Biochem. Pharmacol.
Biochem. Prep.
Biochem. Soc. Symp.
Biochim. appl.
Biochim. Biol. sper.
Biochim. Biophys. Acta
Biofizika
Biokhimiya
Biol. Rev. Camb. Phil. Soc.
Biopolymers
Biotechnol. and Bioeng.
Bol. Inst. Quím. agric. (Brazil)
Bol. Inst. Quím. Univ. nac. auton. Mexico
Bol. Soc. Chilena Quím.
Bol. Soc. quím. Peru
Boll. sci. Fac. Chim. ind. Bologna
Boll. Soc. ital. Biol. sper.
Botyu-Kagaku
Brennstoff-Chem.
Brit. Bull. Spectroscopy
Brit. Chem. Eng.
Brit. Chemist
Brit. Corrosion J.
Brit. J. Pharmacol.
Bul. Inst. Politeh. Iasi
Bull. Acad. polon. Sci., Sér. Sci. chim.
Bull. Acad. Sci., U.S.S.R.
Bull. Chem. Soc. Japan
Bull. Inst. Chem., Acad. Sinica
Bull. Inst. Chem. Res., Kyoto Univ.
Bull. Inst. Nuclear Sci. "Boris Kidrich"
Bull. sci., Conseil Acad. R.S.F., Yougoslavie
Bull. Soc. chim. belges
Bull. Soc. chim. Beograd
Bull. Soc. Chim. biol.
Bull. Soc. chim. France
Bull. Soc. roy. Sci. Liège

Canad. Chem. Processing
Canad. J. Biochem.
Canad. J. Chem.
Canad. J. Chem. Eng.
Canad. J. Pharm. Sci.
Canad. J. Phys.
Canad. Spectroscopy
Carbohydrate Res.
Carbon
Catalysis Rev.
Cellulose Chem. Technol.
Cereal Chem.
Cesk. Farm.
Chem. Age
Chem. analit.
Chem. and Ind.
Chem. and Pharm. Bull. (Japan)
Chem. and Phys. Carbon
Chem. and Phys. Lipids
Chem. Ber.
Chem. Comm.
Chem. Engineer
Chem. Eng.
Chem. Eng. (Japan)
Chem. Eng. News
Chem. Eng. Progr.
Chem. Eng. Progr., Monographs
Chem. Eng. Progr., Symp.
Chem. Eng. Sci.
Chem. Erde
Chem. Heterocyclic Compound
Chem. High Polymers (Japan)
Chem. in Britain
Chem. in Canada
Chem. Ind. (Düsseldorf)
Chem. Ind. Internat.
Chem.-Ing.-Tech.
Chem. listy
Chem. Natural Compounds
Chem. Oil and Gas, Romania
Chem. Phys. Letters
Chem. Process Eng.
Chem. Processing
Chem. Processing (S. Africa)
Chem. Processing (U.S.A.)
Chem. prümysl
Chem. Rev.
Chem. Soc. Special Publ.
Chem. Stosowana
Chem. Tech. (Berlin)
Chem. Week
Chem. Weekblad
Chem.-Ztg.
Chem. Zvesti
Chemist-Analyst
Chemist and Druggist
Chemistry (Quart. Chinese Chem. Soc., Formosa)
Chim. analyt.
Chimia (Switz.)
Chimica e Industria
Chimie et Industrie
Chimika Chronika
Chromatographia
Chromatog. Rev.
Ciencia
Clinical Biochem.
Clinical Chem.
Clinica Chim. Acta
Coke and Chemistry (U.S.S.R.)
Coll. Czech. Chem. Comm.
Colloid J. (U.S.S.R.)
Combustion and Flame
Comm. Fac. Sci. Univ. Ankara
Compt. rend.
Compt. rend. Acad. bulg. Sci.
Compt. rend. Soc. Biol.
Compt. rend. Soc. Phys. Hist. nat. Genève
Compt. rend. Trav. Lab. Carlsberg
Co-ordination Chem. Rev.
Corrosion
Corrosion Sci.
Croat. Chem. Acta
Current Sci.

Dansk Tidsskr. Farm.
Dechema Monograph.
Deut. Farb.-Z.
Deut. Lebensm.-Rundschau
Developments Appl. Spectroscopy
Discuss. Faraday Soc.
Diss. Abs.
Doklady Akad. Nauk Armyan. S.S.R.
Doklady Akad. Nauk Azerb. S.S.R.
Doklady Akad. Nauk S.S.S.R.
Dopovidi Akad. Nauk Ukrain. R.S.R. Ser. B.
Double-Liaison

Educ. in Chem.
Electroanalyt. Chem.
Electrochem. Technol.
Electrochim. Acta
Elektrokhimiya
Endeavour
Enzymologia
Erdöl u. Kohle
Ernährungsforschung
European J. Biochem.
European J. Steroids
European Polymer J.
Experientia

Fed. Proc.
Ferment. i spirt. Prom.
Fette, Seifen, Anstrichm.
Finska Kemistsamfundets Medd.
Fiz.-khim. Mekh. Materialov
Fiz. Metall. i Metallov.
Fluorine Chem. Rev.
Food
Food Manuf.
Food Technol.
Fortschr. Arzneim.
Fortschr. Chem. Forsch.
Fortschr. Chem. org. Naturstoffe
Fortschr. Hochpolym.-Forsch.
Fuel

Gazzetta
General Cytochem. Methods
Geokhimiya
Gidrokhim. Mat.
Giorn. Microbiol.
Glass Technol.
Grasas y Aceites

Halogen Chem.
Helv. Chim. Acta
Helv. Phys. Acta
High Energy Chem.

Ind. Chim.
Ind. chim. belge
Ind. and Eng. Chem.
Ind. and Eng. Chem. (Fundamentals)
Ind. and Eng. Chem. (Process Design)
Ind. and Eng. Chem. (Product Res. and Development)
Ind. Finishing
Ind. Lab.
Indian J. Appl. Chem.
Indian J. Biochem.
Indian J. Chem.
Indian J. Pure Appl. Phys.
Industria y Química
Ing. chim. (Bruxelles)
Inorg. Chem.
Inorg. Chim. Acta
Inorg. Chim. Acta, Rev.
Inorg. Materials
Inorg. Nuclear Chem. Letters
Inorg. Synth.
Inst. Internat. Chim. Solvay Conseil Chim.
Internat. Chem. Eng.
Internat. J. Appl. Radiation Isotopes
Internat. J. Quantum Chem.
Internat. J. Quantum Chem., Symp.
Internat. J. Radiation Biol.
Internat. Sugar J.
Internat. Z. Vitaminforsch.
Intra-Sci. Chem. Reports
Ion Exchange
Israel J. Chem.
Israel J. Technol.
Ital. J. Biochem.
Izvest. Akad. Nauk Kazakh. S.S.R., Ser. khim.
Izvest. Akad. Nauk Latv. S.S.R., Ser. khim.
Izvest. Akad. Nauk S.S.S.R., Neorg. Materialy
Izvest. Akad. Nauk S.S.S.R., Ser. khim.
Izvest. sibirsk. Otdel. Akad. Nauk, Ser. khim. Nauk

Japan Analyst
Japan Chem. Quart.
Jap. J. Pharmacol.
J. Agric. Chem. Soc. Japan
J. Agric. Food Chem.
J. Amer. Ceram. Soc.
J. Amer. Chem. Soc.
J. Amer. Leather Chemists' Assoc.
J. Amer. Oil Chemists' Soc.
J. Analyt. Chem. (U.S.S.R.)
J. Appl. Chem.
J. Appl. Chem. (U.S.S.R.)
J. Appl. Cryst.
J. Appl. Phys.
J. Appl. Polymer Sci.
J. Assoc. Offic. Analyt. Chemists
J. Assoc. Public Analysts
J. Biochem. (Japan)
J. Biol. Chem.
J. Catalysis
J. Chem. Documentation

J. Chem. Educ.
J. Chem. and Eng. Data
J. Chem. Phys.
J. Chem. Soc. (A)
J. Chem. Soc. (B)
J. Chem. Soc. (C)
J. Chem. Soc. Japan
J. Chem. Soc. Japan, Ind. Chem. Sect.
J. Chem. U.A.R.
J. Chim. phys.
J. Chinese Chem. Soc. (Formosa)
J. Chromatog.
J. Colloid Interface Sci.
J. Econ. Entomol.
J. Electroanalyt. Chem. Interfacial Electrochem.
J. Electrochem. Soc.
J. Electrochem. Soc. Japan
J. Fac. Sci. Univ., Tokyo
J. Food Sci.
J. Franklin Inst.
J. Gas Chromatog.
J. Gen. Chem. (U.S.S.R.)
J. Heterocyclic Chem.
J. Histochem. Cytochem.
J. Indian Chem. Soc.
J. Indian Inst. Sci.
J. Inorg. Nuclear Chem.
J. Inst. Brewing
J. Inst. Chemists (India)
J. Inst. Fuel
J. Inst. Petroleum
J. Inst. Rubber Ind.
J. Karnatak Univ.
J. Korean Chem. Soc.
J. Labelled Compounds
J. Less-Common Metals
J. Lipid Res.
J. Macromol. Sci.
J. Mass Spectrometry Ion Phys.
J. Materials
J. Medicin. Chem.
J. Mol. Biol.
J. Mol. Spectroscopy
J. Mol. Structure
J. Natural Sci. Math., Govt. Coll., Lahore
J. Neurochem.
J. New Zealand Inst. Chem.
J. Nuclear Materials
J. Oil Colour Chemists' Assoc.
J. Opt. Soc. Amer.
J. Org. Chem.
J. Org. Chem. (U.S.S.R.)
J. Organometallic Chem.
J. Pharm. Pharmacol.
J. Pharm. Sci.
J. Pharm. Soc. Japan
J. Pharmacol.
J. Phys. (A)
J. Phys. (B)
J. Phys. (C)
J. Phys. (E)
J. Phys. and Chem. Solids
J. Phys. Chem.
J. Phys. Soc. Japan
J. Polarog. Soc.
J. Polymer Sci., Part A-1, Polymer Chem.
J. Polymer Sci., Part A-2, Polymer Phys.
J. Polymer Sci., Part B, Polymer Letters
J. Polymer Sci., Part C, Polymer Symposia
J. prakt. Chem.
J. Proc. Roy. Soc. New South Wales
J. Quant. Spectroscopy Radiative Transfer
J. Radioanalyt. Chem.
J. Res. Inst. Catalysis, Hokkaido Univ.
J. Res. Nat. Bur. Stand., Sect. A
J. S. African Chem. Inst.
J. Sci. Food Agric.
J. Sci. Hiroshima Univ.
J. Sci. Ind. Res., India
J. Sci. Instr.
J. Soc. Cosmetic Chemists
J. Soc. Dyers and Colourists
J. Soc. Leather Trades' Chemists
J. Struct. Chem.
J. Synthetic Org. Chem., Japan
J. Textile Inst.

Khim. geterotsikl. Soedinenii
Khim. i Ind.
Khim. i neft. Mashinostr.
Khim. prirod. Soedinenii
Khim. Prom.
Khim. Volokna
Khim. vysok. Energii
Kinetics and Catalysis (U.S.S.R.)
Kinetika i Kataliz
Kolloid-Z.
Kolloid. Zhur.
Kristallografiya
Kunst. Plastics

Lab. Practice
Lipids

Macromolecules
Macromol. Rev.
Macromol. Synth.
Magyar Kém. Folyóirat
Magyar Kém. Lapja
Makromol. Chem.
Manuf. Chemist
Mededel. vlaam. chem. Ver.
Mekh. Polimerov
Melliand Textilber.
Mem. Fac. Sci. Kyushu Univ.
Mem. Inst. Protein Res., Osaka Univ.
Mem. Inst. Sci. Ind. Res., Osaka Univ.
Mém. Poudres
Methods Biochem. Analysis
Microchem. J.
Mikrochim. Acta
Mitt. deut. pharm. Ges.
Mol. Crystals
Mol. Phys.
Monatsh.

Nachr. Akad. Wiss. Göttingen, Math.-phys. Kl.
Nahrung
Nature
Naturwiss.
Neftekhimiya

Orbital
Osterr. Chem.-Ztg.
Optics and Spectroscopy
Org. Analysis
Org. Mass Spectrometry
Org. Photochem.
Org. Reaction Mech.
Org. Reactions
Org. Synth.
Organometallic Chem. Rev.
Organometallic Synth.
Oxidation and Combustion Rev.

Paint Manuf.
Paint Technol.
Pakistan J. Sci.
Pakistan J. Sci. Ind. Res.
Pakistan J. Sci. Res.
Parfümerie u. Kosmetik
Perfumery Essent. Oil Record
Periodica Polytech.
Perspectives in Structural Chem.
Pharm. Acta Helv.
Pharm. J.
Pharm. Weekblad
Pharm. Zentralhalle
Phil. Mag.
Phil. Trans.
Photochem. and Photobiol.
Photoelectric Spectromet. Group Bull.
Phys. and Chem. Earth
Phys. and Chem. Glasses
Phys. Rev.
Phys. Rev. Letters
Physica
Phytochemistry
Plastics and Polymers
Polymer
Polymer Sci. (U.S.S.R.)
Postepy Biochem.
Priklad. Biokhim. i Mikrobiol.
Proc. Acad. Sci. (U.S.S.R.)
Proc. Amer. Soc. Brewing Chemists
Proc. Brit. Ceram. Soc.
Proc. Cambridge Phil. Soc.
Proc. Indian Acad. Sci.
Proc. Japan Acad.
Proc., k. ned. Akad. Wetenschap.
Proc. Nat. Acad. Sci., India
Proc. Nat. Acad. Sci. U.S.A.
Proc. Phys. Soc.
Proc. Roy. Soc.
Proc. Roy. Soc. Edinburgh
Proc. Soc. Exp. Biol. Med.
Proc. Soil Sci. Soc. Amer.
Process Biochem.
Progr. Biophys. Mol. Biol.
Progr. Boron Chem.
Progr. Chem. and Chem. Ind.
Progr. Chem. Fats and Lipids
Progr. Inorg. Chem.
Progr. N.M.R. Spectroscopy
Progr. Nucleic Acid Res.
Progr. Org. Chem.
Progr. Phys. Org. Chem.
Progr. Polymer Sci.
Progr. Reaction Kinetics
Progr. Solid-State Chem.
Progr. Stereochem.
Przemysl Chem.
Pure Appl. Chem.
Pyrethrum Post

Quart. Reports Sulphur Chem.
Quart. Rev.
Quimica e Industria

Radiation Res.
Radiochim. Acta.
Radiokhimiya
Reakts. spos. org. Soedinenii
Rec. Chem. Progr.
Rec. Trav. chim.
Recent Developments Chem. Natural Carbon Compounds
Recent Progr. Hormone Res.
Recent Progr. Surface Sci.
Recherches
Rend. Accad. Sci. fis. mat. (Napoli)
Reports Govt. Chem. Ind. Res. Inst., Tokyo
Reports Inst. Phys. Chem. Res (Japan)
Reports Progr. Phys.
Residue Rev.
Rev. Asoc. bioquim. argentina
Rev. Chim. (Roumania)
Rev. Chim. minérale
Rev. Fac. Cienc. quím., Univ. nac. La Plata
Rev. Fac. Farm. Bioquím., Univ. nac. mayor San Marcos
Rev. Fac. Sci. Univ. Istanbul Ser. C
Rev. Mod. Phys.
Rev. Phys. Chem. Japan
Rev. Port. Quím.
Rev. Prod. chim.
Rev. Pure Appl. Chem. (Australia)
Rev. Roumaine Biochim.
Rev. Roumaine Chim.
Rev. Sci. Instr.
Rev. Soc. quím. Mexico
Rev. Univ. ind. Santander Colombia
Ricerca sci.
Roczniki Chem.
Roy. Inst. Chem., Lecture Series
Roy. Inst. Chem. Rev.
Rubber Chem. Technol.
Rubber Plastics Age
Russ. Chem. Rev.
Russ. J. Inorg. Chem.
Russ. J. Phys. Chem.

Safybi
Sbornik Prác Chem. Fak. S.V.Š.T.
Schweiz. Apoth.-Ztg.
Sci. Papers Coll. Gen. Educ., Univ. Tokyo
Sci. Papers Univ. Chem. Technol., Pardubice
Sci. Papers Inst. Phys. Chem. Res., Tokyo
Sci. Proc. Royal Dublin Soc.
Sci. Reports Res. Inst., Tôhoku Univ.
Sci. Reports Tôhoku Univ.
Science
Science and Culture
Separation Sci.
Soap
Soc. Sci. Fennica, Commentationes Phys.-Math.
Soc. Sci. Lodz. Acta Chim.
Soil Sci.
Soviet Phys. Cryst.
Spectochim. Acta
Sperimentale
Stärke
Stain Technol.
Standard Methods Clin. Chem.
Steroids
Structure and Bonding
Studia Univ. Babes-Bolyai, Ser. Chem.
Suomen Kem.
Surface Sci.
Svensk kem. Tidskr.
Svensk Papperstidn.
Synthetic Methods Org. Chem.

Talanta
Technol. Reports Osaka Univ.
Technol. Reports Tôhoku Univ.
Teor. i eksp. Khim.
Teor. Osnovy khim. Tekhnol.
Tetrahedron
Tetrahedron Letters
Textile Inst. and Ind.
Textile Res. J.
Theor. and Exp. Chem.
Theor. Chim. Acta
Tidsskr. Kjemi Bergvsen Met. (Kjemi)
Topics Stereochem.
Trans. Brit. Ceram. Soc.
Trans. Chalmers Univ. Technol., Gothenburg
Trans. Faraday Soc.
Trans. Inst. Chem. Engineers
Trans. Inst. Metal Finishing
Trans. J. Plastics Inst.
Trans. Roy. Soc. Canada
Transition Metal Chem.
Trudy Inst. Elektrokhim. Akad. Nauk S.S.S.R., Ural'skii Filial
Trudy Inst. khim. Akad. Nauk Azerb. S.S.R.
Trudy Inst. khim. Nauk, Akad. Nauk Kazakh. S.S.R.
Trudy Khim. i khim. Tekhnol.
Trudy Kom. analit. Khim., Akad. Nauk S.S.S.R.

Ukrain. biokhim. Zhur.
Ukrain. khim. Zhur.
Uspekhi Khim.
Uzbek. khim. Zhur.

Verhandel. k. ned. Akad. Wetenschap., Afd. Natuurk.
Vestnik Leningrad. Univ. (Fiz. Khim.)
Vestnik Moskov. Univ.
Vestnik Slovensk. kem. Drustva
Veszpremi Vegyi. Egyetem Köz.
Vitamins and Hormones
Voprosy med. Khim.
Vysokomol. Soedineniya

Wallerstein Lab. Comm.
Wiss. Z. tech. Hochschule Chem. Leuna-Merseburg

Zavodskaya Lab.
Z. analyt. Chem.
Z. anorg. Chem.
Z. Chem.
Z. Krist.
Z. Lebensm.-Untersuch.
Z. Naturforsch.
Z. phys. Chem. (Frankfurt)
Z. phys. Chem. (Leipzig)
Z. Physik
Z. physiol. Chem.
Z. Vitamin-,Hormon-,u.Ferment-forsch.
Z. wiss. Phot.
Zeszyty Nauk., Mat., Fiz., Chem.
Zeszyty Nauk. Politech. lodz. (Chem.)
Zhur. analit. Khim.
Zhur. eksp. teor. Fiz.
Zhur. E.T.F. Letters
Zhur. evol. Biokhim. i Fiziol.
Zhur. fiz. Khim.
Zhur. nauch. priklad. Fotograf. Kinemat.
Zhur. neorg. Khim.
Zhur. obshchei Khim.
Zhur. org. Khim.
Zhur. priklad. Khim.
Zhur. priklad. Spektroskopii
Zhur. strukt. Khim.
Zhur. Vsesoyuz. Khim. obshch. im. D.T. Mendeleeva

NOTICES TO AUTHORS—No. 5/1969

The International System of Units (SI)

Preamble

For many years the practice of The Society in respect of units has been based on the recommendations of a joint Committee of The Royal Society, The Chemical Society, The Faraday Society, and The Physical Society. The 1951 set of recommendations published by that Committee formed the basis of Chapter 7 of the 'Handbook for Chemical Society Authors' but since their promulgation much effort has been expended in international circles to devise and approve a basic set of coherent units. This having been completed, The Joint Symbols Committee of The Royal Society, of which The Chemical Society is a participating member, has produced a completely new set of recommendations in a pamphlet 'Symbols, Signs and Abbreviations' 1969 (copies of this pamphlet or further details can be obtained from the Managing Editor, The Chemical Society, Burlington House, London, W1V OBN). The basis of the new recommendations is the 'Système International d'Unités' (to be abbreviated to SI, in all languages).

The advantages offered by SI are as follows.

(i) It is a truly coherent system, *i.e.* the product or quotient of any two unit quantities in the system is the unit of the resultant quantity. This contrasts with the previous situation where, even in metric systems used within the same discipline, many additional units are arbitrarily and sometimes differently defined.

(ii) SI derives nearly all the quantities needed in all sciences and technologies from a very small set of base-units.

(iii) The variety of multiples and sub-multiples in common use is minimized.

(iv) A more uniform presentation can be ensured.

(v) Presentation is such that the relation of any derived unit, or multiple or sub-multiple of a derived unit, to the coherent unit is always obvious and simple.

Policy

(1) The Society announces its approval and support of SI, and its intention that SI shall become the preferred system in its publications.

(2) *Guidelines for the publications of the Society.* The Society realises that public acceptance of this system will be more a matter of education and tolerance than of dictatorial action. It nevertheless desires that the SI system and units compatible with it shall *rapidly* become the established standard in the Society's publications. An author will not be denied any reasonable usage, but if non-SI units are used for critical data or for quantities measured to a high order of accuracy (as opposed to the rough physical conditions of an experiment), the definitive values will be expressed in SI units as well.

The following will be the guidelines used:

(*a*) A metric system will always be used in preference to a non-metric one.

(*b*) The SI system will be the standard usage.

(*c*) The units used to record the *definitive* values of 'critical data' or quantities measured to high degree of accuracy will be of the SI system.

(*d*) When non-SI units are used they must be adequately explained unless their definition is obvious (*e.g.* degree Celsius, mmHg, g, h). The derivation of derived non-SI units will be indicated.

(*e*) Equations involving electrical quantities should normally be those appropriate for use with SI (rationalized m.k.s) units. If authors wish to use equations suitable for e.s.u. or e.m.u. the lack of consistency with SI units must be explicitly noted.

(3) *The principal changes.* There are four of these:

(*a*) Basic units: the metre and the kilogramme replace the centimetre and the gramme of the old metric system.

(*b*) The unit of force is now the newton (kg m s^{-2}).

(*c*) The unit of energy is the joule and of power the joule per second (watt); thus the variously defined calories and non-metric units of energy and power are superseded.

(*d*) 'Electrostatic' and electromagnetic' units are replaced by SI electrical units.

Detail

(4) *Definition.* A quantity is expressed as the product of a numerical value and a unit.

(5) *The System.* The fully coherent SI consists of base-units, supplementary units, derived units, and decimal multiples and sub-multiples of these units, formed by use of prefixes only.

(6) *Coherent systems.* A coherent system is one based on a selected set of 'base-units' from which 'derived units' are obtained by multiplication without introducing numerical factors.

(7) *Base-units.* The name International System of Units (SI) was adopted by the Conférence Générale de Poids et Mesures in 1960 for the coherent system now based on the base-units given in Table 1.

TABLE 1

Physical quantity	*Name of base-unit*	*Symbol for unit*
length	metre	m
mass	kilogramme	kg
time	second	s
electrical current	ampere	A
thermodynamic temperature	kelvin	K
luminous intensity	candela	cd
amount of substance	mole	mol

(8) *Supplementary units.* The SI also includes two 'supplementary' *dimensionless* units as follows:

Physical quantity	*Name of unit*	*Symbol for unit*
plane angle	radian	rad
solid angle	steradian	sr

(9) *Multiples and sub-multiples.* In the SI there is one and only one basic unit for each physical quantity. Decimal fractions and multiples of these basic units may, however, be constructed by use of certain prefixes (see Table 2). They may also be used with derived SI units.

TABLE 2

Fraction	*Prefix*	*Symbol*	*Multiple*	*Prefix*	*Symbol*
10^{-1}	deci	d	10	deka	da
10^{-2}	centi	c	10^{2}	hecto	h
10^{-3}	milli	m	10^{3}	kilo	k
10^{-6}	micro	μ	10^{6}	mega	M
10^{-9}	nano	n	10^{9}	giga	G
10^{-12}	pico	p	10^{12}	tera	T
10^{-15}	femto	f			
10^{-18}	atto	a			

The combination of a prefix and a unit symbol constitutes a new single unit symbol; compounding of prefixes is not permitted.

Although it will not always be possible, particularly in Tables, the general principle should be to choose a unit (*i.e.* including multiple or sub-multiple) such that the resulting numerical value is between 0·1 and 1000.

(10) *Derived units.* Some derived units have special names and symbols, and these are given in Table 3.

TABLE 3

Physical quantity	*Name of SI unit*	*Symbol for SI unit*	*Definition of SI unit*
energy	joule	J	$kg\ m^2\ s^{-2}$
force	newton	N	$kg\ m\ s^{-2} = J\ m^{-1}$
power	watt	W	$kg\ m^2\ s^{-3} = J\ s^{-1}$
electric charge	coulomb	C	$A\ s$
electric potential difference	volt	V	$kg\ m^2\ s^{-3}A^{-1} = JA^{-1}\ s^{-1}$
electric resistance	ohm	Ω	$kg\ m^2\ s^{-3}A^{-2} = VA^{-1}$
electric capacitance	farad	F	$A^2\ s^4\ kg^{-1}\ m^{-2} = As\ V^{-1}$
magnetic flux	weber	Wb	$kg\ m^2\ s^{-2}A^{-1} = V\ s$
inductance	henry	H	$kg\ m^2\ s^{-2}A^{-2} = VA^{-1}\ s$
magnetic flux density	tesla	T	$kg\ s^{-2}A^{-1} = V\ s\ m^{-2}$
luminous flux	lumen	lm	$cd\ sr$
illumination	lux	lx	$cd\ sr\ m^{-2}$
frequency	hertz	Hz	s^{-1}

Others do not

Physical quantity	*SI unit*	*Symbol for SI unit*
area	square metre	m^2
volume	cubic metre	m^3
density	kilogramme per cubic metre	$kg\ m^{-3}$
velocity	metre per second	$m\ s^{-1}$
angular velocity	radian per second	$rad\ s^{-1}$
acceleration	metre per second squared	$m\ s^{-2}$
pressure	newton per square metre	$N\ m^{-2}$
kinematic viscosity, diffusion coefficient	square metre per second	$m^2\ s^{-1}$
dynamic viscosity	newton second per square metre	$N\ s\ m^{-2}$
electric field strength	volt per metre	$V m^{-1}$
magnetic field strength	ampere per metre	$A\ m^{-1}$
luminance	candela per square metre	$cd\ m^{-2}$

(11) *Symbol.* The symbol for a unit will be printed in roman (upright) type, remains unaltered in the plural and does *not* take a full point, *i.e.* 5 cm not 5 cm. or 5 cms or 5 cms.

The symbol will be separated from the numerical value by a thin space.

(12) *Decimal fractions and multiples of SI units having special names.* These names are not part of the SI, but for the time being their use in The Society's publications may continue. The list given in Table 4 is not exhaustive.

TABLE 4

Physical quantity	*Name of unit*	*Symbol unit*	*Definition of unit*
length	ångström	Å	$10^{-10}\ m = 10^{-1}\ nm$
length	micron	μm	$10^{-6}\ m$
area	barn	b	$10^{-28}\ m^2$
volume	litre	l	$10^{-3}\ m^3 = dm^3$
mass	tonne	t	$10^3\ kg = Mg$
force	dyne	dyn	$10^{-5}\ N$
pressure	bar	bar	$10^5\ N\ m^{-2}$
pressure	pascal	Pa	Nm^{-2}
energy	erg	erg	$10^{-7}\ J$
kinematic viscosity diffusion coefficient	stokes	St	$10^{-4}\ m^2\ s^{-1}$
dynamic viscosity	poise	P	$10^{-1}\ kg\ m^{-1}\ s^{-1}$
magnetic flux	maxwell	Mx	$10^{-8}\ Wb$
magnetic flux density (magnetic induction)	gauss	G	$10^{-4}\ T$
conductance	siemens	S	Ω^{-1}

(13) *Units defined in terms of the best available experimental values of certain physical constants.* These units are not part of the SI. The factors for conversion of these units to SI units are subject to change in the light of new experimental measurements of the constants involved. Their use outside the restricted contexts to which they are appropriate should be discouraged. The following list is not exhaustive.

Physical quantity	*Name of unit*	*Symbol for unit*	*Conversion factor*
energy	electronvolt	eV	$eV \approx 1{\cdot}6021 \times 10^{-19}\ J$
mass	unified atomic mass unit	u	$u \approx 1{\cdot}660\,41 \times 10^{-27}\ kg$

(14) *Other units now exactly defined in terms of the SI units.* These units are not part of the SI. It is recognized that their use may be continued for some time but it is recommended that except in special circumstances they should be progressively abandoned in conformity with international recommendations. The list given in Table 5 is by no means exhaustive. Each of the definitions given in the fourth column is *exact.*

TABLE 5

Physical quantity	*Name of unit*	*Symbol for unit*	*Definition of unit*
length	inch	in	$2{\cdot}54 \times 10^{-2}\ m$
mass	pound (avoirdupois)	lb	0·453 592 37 kg
time *	minute	min	60 s
time *	hour	h	3600 s
force	kilogramme-force	kgf	9·806 65 N
force	pound-force	lbf	$9{\cdot}806\ 65 \times 0{\cdot}453\ 592\ 37$ N
pressure	atmosphere	atm	$101\ 325\ N\ m^2$
pressure	conventional millimetre of mercury	mmHg	$13{\cdot}5951 \times 9{\cdot}806\ 65\ N\ m^{-2}$
pressure	torr	Torr	$(101\ 325/760)\ N\ m^{-2}$
pressure	pound-force per square inch	$lbf\ in^{-2}$	$\frac{9{\cdot}806\ 65 \times 4535{\cdot}9237}{6{\cdot}4516}\ N\ m^{-2}$
energy	kilowatt hour	kW h	$3{\cdot}6 \times 10^6\ J$
energy	thermochemical calorie	cal(thermochem.)	4·184 J
energy	I.T. calorie	cal_{IT}	4·1868 J
thermodynamic temperature	degree Rankine	°R	(5/9) K
radioactivity	curie	Ci	$3{\cdot}7 \times 10^{10}\ s^{-1}$

* Use of other common units (min, h, day) may continue in normal expressions of intervals of time.

NOTICE TO AUTHORS—No. 6/1969

Formulae and Figures

The purpose of all illustrative matter in a paper is to clarify the arguments and descriptions rather than to duplicate them. The Society strongly encourages the use of displayed formulae, particularly in the form of schemes where the details of a reaction sequence are often more easily understood when illustrated than when described in the text.

All formulae and figures should be clearly drawn, and in the case of figures provided with captions; the latter should be typed on a separate sheet. Since all formulae carry a key number by which they are identified, unless they form part of the running text or unless they are part of a scheme which itself has a caption, they are not generally further described. Blocks of formulae do not need a caption.

Illustrative matter is divided, for technical reasons, into figures and formulae, although in many cases (*e.g.* crystal structures which may be regarded as formulae but which are treated as figures) these divisions overlap.

Structural Formulae.—(*a*) Only those formulae which are displayed may be given key numbers. In all other cases the compounds concerned are referred to by name only.

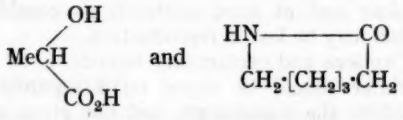
(*b*) Formulae are numbered sequentially with bold arabic numerals in parentheses [(**1**), (**2**), and (**3**) *etc.*] as they are displayed and *not* as they are mentioned in the text.

(*c*) In complex reaction schemes the formulae should be numbered serially following the reaction sequence. Non-sequential numbering in a collection of formulae can render it hard to locate an individual number.

(*d*) Structural or displayed formulae must be carefully and accurately drawn or typed on a separate sheet, rather than inserted into the text, although a marginal indication of where they are to go in the text is desirable.

(*e*) Formulae inserted into the body of the text (as distinct from those displayed separately) should be written on one line if possible, *e.g.*

$HO{\cdot}CHMe{\cdot}CO_2H$ and $\overline{NH{\cdot}[CH_2]_5{\cdot}CO}$ rather than



and

(*f*) Points (which may be typed as full stops) are used to indicate bonds between the atoms of the backbone chain of a compound. The symbol of each element of that chain is preceded by a full stop (or colon for a double bond) and followed by the symbols or formulae of the atoms or groups that are attached to it (parentheses being used where necessary to enclose compound groups), *e.g.* *o*-$HO{\cdot}C_6H_4{\cdot}CH_2{\cdot}NH_2$ and $CH_2Cl{\cdot}CH(OH){\cdot}CO_2H$.

Groups that are indicated by a single symbol (*e.g.* Me and Et *etc.*) do not need use of such full stops.

Repeating sequences of a backbone composite group are enclosed with square brackets and their number is indicated by an inferior multiplier, *e.g.* $HO{\cdot}[CH_2]_4{\cdot}NH_2$, but $HO{\cdot}[CH_2]_4{\cdot}N(CH_2{\cdot}OH)_2$.

(*g*) The use of large circles to represent six delocalized π-electrons in cyclic systems (with or without positive or negative signs as appropriate) is permitted in certain circumstances. Cyclic systems with more or less than six delocalized π-electrons may be represented by formulae containing dotted lines. Both topics are dealt with in *Proceedings*, 1959, 75.

(*h*) Customary steric conventions must be observed, notably for steroids, triterpenes, and carbohydrates. The Society uses wedges (◢) or heavy lines (—) rather than blocked circles (●) and broken lines in the form – – – – – rather than ıllll.

(*i*) The symbols Me, Et, Pr^n, Pr^i, Bu^n, Bu^i, Bu^s, Bu^t, Ph, Ac, Bz (the symbol for PhCO and not for $PhCH_2$), Alk, Ar, and Hal, should be used but may be written in full when the groups are involved in the reaction described. Other special symbols, if used, require an explanatory footnote. The carboxy-group is written CO_2H (*not* COOH) and similarly CO_2R.

(*j*) One variable univalent substituent is indicated by R; when more than one independently variable general substituent is present, R^1, R^2, and R^3 should be used (*not* R, R^1, R^2, R^3; or R_1, R_2, and R_3 which indicate 1 × R and multiples of R thereof).

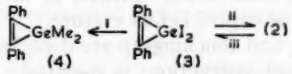
(*k*) Often it is desirable to use one formula to represent a number of related compounds (or classes of compounds) by the use of one or more independently variable substituents. It is preferable to give each compound thus represented a separate key number rather than to subdivide individual key numbers by alphabetical suffixes [*i.e.* (1a), (1b), (1c) *etc.*].

(**1**) $R^1 = R^2 = Ph$, $R^3 = Me$, X = O
(**2**) $R^1 = Me$, $R^2 = R^3 = Ph$, X = S

(**3**) $R^1 = Me$, $R^2 = Ph$, $R^3 = Bz$
(**4**) $R^1R^2 = CO{\cdot}O{\cdot}CO$, $R^3 = Ph$

The use of more than four independently variable substituents or atoms on one generalized formula is discouraged.

(**1**) Once a formula has been displayed it is permissible to employ its key number in later reaction schemes or equations rather than to re-display the formula:



Reagents: i, MeMgI; ii, NaOH; iii, HI

It should be noted that reagents and reaction conditions are given as footnotes to the scheme for economy of space; if present, an equation number is set as far to the right as possible, and if there is likelihood of

confusion with compound key-numbers it is accompanied by the word equation.

(*m*) Displayed formulae, unless they are capable of being typed on one line [see point (*e*) above], should not be included in tables; they should be displayed before the table with a key number for each compound and this should be used in the table.

(*n*) The key number for a compound may be used in the cursive text to avoid repetition of long chemical names; this device must not be used to excess. In general it is preferred if the key number is qualified by a partial name for the compound as in the following example:

'Pyolin (**1**) was oxidized by permanganate to the oxo-acid (**2**), the methyl ester (**3**) of which with methylmagnesium iodide gave the normal product (**4**)'.

(*o*) Reference to compounds in the Summary by key number alone is not allowed since a summary should be comprehensible without reference to the body of the paper itself. The reference number should, however, accompany the name of the compound to which it refers.

Figures.—(*a*) Figures must bear on the back the names of the authors, the title of the paper (abbreviated if necessary), and the number of the figure.

(*b*) Figures must be in Indian ink, on Bristol board, white smooth cartridge paper, tracing linen, plastic film (it is essential that the special plastic ink developed for this is used), or graph paper with *faint* blue lines (red or brown lines must not be present as these may be reproduced by the photographic process of block making). Since lines must be black and sharp, photostats or similar prints are often not suitable. If paper is used, it must be strong enough to withstand repeated handling.

(*c*) Lettering and numerals must be in *blue pencil* (*not* red or black pencil or ink) clearly legible but not so heavily scored as to make a permanent impression on the paper or board.

(*d*) When the figures are large (more than 8 in × 10 in), smaller copies (which may be rough, as long as they are clear) should be supplied for submission to the referees; editing will not be undertaken, however, before the final figures are received.

(*e*) Figures must be carefully drawn, preferably three times the size (linear) that seems necessary to ensure sharp printing, but excessive reduction is costly and illustrations that exceed five times the size of the finished block may be returned to the author for redrawing.

(*f*) Two-inch margins are essential all round figures. Lettering for insertion at margins should be placed well clear of the ordinate or abscissa line so that it can be copied before erasure.

Lettering and touching-up are done by the Society and clarity of instructions is essential. When there is much lettering, or complicated lettering, and always when tracing linen or plastic film is used, a rough tracing should be added with the lettering shown in ink.

(*g*) Since, for printing, the size is reduced, lines should not be too thin. Given lines must be of even thickness, angles neat, and curves smooth.

(*h*) Graphs should have only the requisite minimum of the scale (not less than three points) marked by numerals, and the scale lines should not normally be continued into the body of the figure.

(*i*) Graphs in any one paper should, when convenient, be drawn to the same scale, and scale markings should, when possible, be identical so that the graphs may be placed adjacent on the page. Contrariwise, two curves drawn to different scales can be shown on one graph by having the appropriate scales on the left-hand and the right-hand side. The use of both right- and left-hand axes and top and bottom axes on figures which have quantitative significance is encouraged.

(*j*) Experimental points must be shown sufficiently large to be distinguishable when reduced in size. Whenever possible, they should be confined to open and closed circles, crosses, squares, and triangles. Partly black circles and similar signs frequently become indistinguishable in print.

(*k*) Curves may be distinguished as full lines (——), broken (– – – –) or dotted lines (· · · ·), and dot-dash lines (— · — · —); further differentiation should normally be achieved by labelling the curves, which is, in any case, desirable.

(*l*) For reference in legends, it is preferable to mark curves A, B, C, *etc.* rather than to reproduce the type of line in print.

(*m*) There must be no unnecessary waste space, *e.g.* around curves; ordinates and abscissae should start at zero only if the curve extends to that range. Enlargement of parts of a figure can occasionally be placed in a corner of the complete figure.

(*n*) It is not advisable to insert much or complicated lettering on curves or in blank spaces; mistakes (in copying by the artist) can rarely be rectified once the block is made. It is better to label the curves A, B, C, *etc.* and to use explanatory legends.

(*o*) *Large* solid objects should be represented by hatching rather than by black surfaces, otherwise the ink may smear on printing.

(*p*) Photographs are reproduced by a half-tone process on art paper. The prints supplied must be very clear and of good contrast, as considerable definition may be lost in reproduction.

(*q*) Captions and explanatory legends, to be set by the printer should be typed on a separate page attached to the manuscript, and not given on the figure itself.

(*r*) Figures are numbered consecutively Figure 1, Figure 2, *etc.* (in arabic numerals). Photographs (half-tone reproduction) are numbered consecutively Plate 1, Plate 2, *etc.* but these numbers are independent of the numbering of any figures.

(*s*) Since figures represent an uneconomical use of space their number and size should be kept to a minimum. Figures and tables for the same values are discouraged.

NOTICES TO AUTHORS—No. 7/1970

Deposition of Data—Supplementary Publications Scheme

Preamble

The growing volume of research that produces large quantities of data, the increasing facilities for analysing such data mechanically, and the rising cost of printing are each making it very difficult to publish in the *Journal* in the normal way the full details of the experimental data which become available. Moreover, whilst there is a large audience for the general method and conclusions of a research project, the number of scientists interested in the details, and in particular in the data, of any particular case may be quite small. The National Lending Library (N.L.L.) in consultation with the Editors of scientific journals, has now developed a scheme whereby such data and detail may be stored and then copies made available on request at the N.L.L., Boston Spa. The Chemical Society is a sponsor of this scheme and has indicated to the National Lending Library its wish to use the facilities being made available in this ' Supplementary Publications Scheme '.

Bulk information (such as crystallographic structure factor tables, computer programmes and output, evidence for amino-acid sequences, spectra, *etc.*), which accompany papers published in future issues of the Chemical Society's *Journal* may in future be deposited, free of charge, with the Supplementary Publications Scheme, either at the request of the author and with the approval of the referees or on the recommendation of referees and the approval of the author.

The Scheme

Under this scheme, authors will submit articles and the supplementary material to the Journal simultaneously in the normal way, and both will be refereed. If the paper is accepted for publication the supplementary material will be sent by the Society to the National Lending Library where it will be stored on microfiche. Microfiche and enlarged copies will be obtainable by individuals both in the U.K. and abroad on quoting a supplementary publication number that will appear in the parent article. Difficult or oversized material may only be available as 35 mm microfilm or enlarged copies.

The Microfiche

A single microfiche will accommodate 58 pages in microform, plus an eye-visible title; additional pages are accommodated on numbered ' trailer ' fiches, each holding 69 pages. The eye-visible title on the first microfiche will comprise the supplementary publication number (see below), the authors' names, and the bibliographic reference to the parent article which the microfiche supplements.

Authors will be responsible for the preparation of camera-ready copy according to the following specifications (although the Society will be prepared to help in case of difficulty).

(*a*) Optimum page size for text or tables in typescript: up to 30 cm × 21 cm.
(*b*) Limiting page size for text or tables in typescript: 33 cm × 24 cm.
(*c*) Limiting size for diagrams, graphs, spectra, *etc.*: 39 cm × 28·5 cm.
(*d*) Tabular matter should be headed descriptively on the first page, with column headings recurring on each page.
(*e*) Pages should be clearly numbered to ensure the correct sequence of frames on the microfiche.

It is recommended that all material which is to be deposited should be accompanied by some prefatory text. Normally this will be the summary from the parent paper and authors will greatly aid the deposition of the material if a duplicate copy of the summary is provided. If authors have the facilities available the use of a type face designed to be read by computers is encouraged.

Deposition

The Society will be responsible for the deposition of the material with the National Lending Library. The N.L.L. will not receive material direct from authors since the Library wishes to ensure that the material has been properly and adequately refereed.

Action by the Society

The Society will receive a manuscript for publication together with any supplementary material for deposition and will circulate all of this to referees in the normal way. When the edited manuscript is sent to the printers the supplementary material will be sent for deposition to the National Lending Library who will issue the necessary publication number. The Society will add to the paper, at the galley proof stage, a footnote indicating what material has been deposited in the Supplementary Publications Scheme, the number of microfiches it occupies, the supplementary publication number, and details as to how copies may be obtained.

Availability

This supplementary material will be available either as microfiche or as a photographic enlargement, from the National Lending Library's photocopying service. This works on a prepaid, flat rate, coupon basis.

The present coupon purchases one or two microfiches of the same item, or 1—10 pages of enlargement from the same item (or, where appropriate, 1—20 pages from the same item on 35 mm microfilm). The present coupon costs are:

United Kingdom	£10 for 50 coupons (or 25 new p each)
Europe, excluding U.K.	£6 for 20 coupons (or 30 new p each)
Elsewhere	£8·50 for 20 coupons (or 42½ new p each)

The cost includes postage; outside the U.K. all items are sent by airmail.

It is realised that not all users will want to purchase 50 coupons at a time. The Society is therefore prepared to act as agent and hold coupons which may then be purchased from the Society at the prices quoted above.

In all correspondence with the National Lending Library or the Society authors must cite the supplementary publications number.

International Collaboration

A similar scheme (known as the National Auxiliary Publications Service) is being operated in the U.S.A. by the American Society for Information Science. Similar schemes are also being contemplated in other countries. The provision of reciprocal arrangements for the exchange of supplementary data between the various national deposition centres is being investigated.

NOTICES TO AUTHORS—No. 8/1970

X-Ray Crystallographic Structure Factor Tables

The Society has recently taken advice from the members of its Chemical Crystallography Group and as a result of this and of the inception of the National Lending Library Supplementary Publications Scheme (discussed in Notices to Authors No. 7) the following rules are being taken into use forthwith to govern the publication or deposition of *X*-ray crystallographic structure factor tables.

(i) The Society will no longer publish tables of structure factors in its publications except in accordance with the provision of paragraph (iv) below.

(ii) All authors of crystallography papers will submit along with the manuscript a readable table of such structure factors for the referees' inspection. The table should be prepared in accordance with the detail given in paragraph 3 of Notices to Authors No. 7 so that it may be used for deposition. Computer printout may be used providing that it is top copy in good contrast (see note).

(iii) If the referees accept the paper and its associated structure factor tables then the Society will deposit these structure factor tables in the National Lending Library Supplementary Publications Scheme (see Notices to Authors No. 7) and will publish as a footnote to the paper the necessary details that will enable any reader to obtain a copy in microfiche or an electrophotographic printoff of the data tables associated with the paper.

(iv) Authors, or the referees, may request publication of such tables of structure factors, *in extenso*, in cases that seem to them to be desirable. It is expected that this will occur only rarely.

(v) The details of the National Lending Library Supplementary Publications Scheme and the methods for obtaining microfiche or photographic printoff of material deposited with that scheme are given in Notices to Authors No. 7.

Note to paragraph (*ii*). Structure factor tables prepared from computer printout must be presented in the form indicated in paragraph 3 of Notices to Authors No. 7 and must be arranged with the greatest economy of space possible [*i.e.* not less than two groups of columns (h, k, l, F_c, F_o) to the page (30 cm × 21 cm)]. All columns must be headed. A 'paste-up' on white card of computer printout will be acceptable providing the quality of the printout is adequate.

NOTICE TO AUTHORS—No. 9/1974

Nomenclature

For many years the Society has actively encouraged the use of standard I.U.P.A.C. nomenclature and symbolism in its publications as an aid to the accurate and unambiguous communication of chemical information between authors and readers. Although the I.U.P.A.C. rules for naming organic compounds have now gained wide acceptance amongst chemists, mainly because they have been in existence for a number of years, those for naming inorganic compounds are of more recent origin and for this reason their acceptance is less general.

In order to encourage authors to use I.U.P.A.C. nomenclature rules when drafting papers, attention is drawn to the following publications in which both the rules themselves and guidance on their use are given.

'Nomenclature of Organic Chemistry, Sections A, B, and C,' Butterworths, London, 2nd Edition, 1971.

Nomenclature of Inorganic Chemistry,' Butterworths, London, 1971.

'Manual of Symbols and Terminology for Physicochemical Quantities and Units,' Butterworths, London, 1970.

In addition to the above publications, provisional rules for the naming of organometallic compounds, amino-acids, carbohydrates, carotenoids, and steroids, and rules of stereochemistry are available from the:

I.U.P.A.C. Secretariat,
Bank Court Chambers,
2—3 Pound Way,
Cowley Centre,
OXFORD OX4 3YF.

It is recommended that where there are no I.U.P.A.C. rules for the naming of particular compounds or authors find difficulty in applying the existing rules, they should seek the advice of the Society's editorial staff.

ERRATA

Dalton Transactions

1961, page 2015, line 5. Add the term $+[HY^{3-}]$ to the right hand side of equation (1);
line 12. In equation (4) change $[MHY^{2-}]$ to $[MHY^{-}]$;
line 14. The numeration of equation (6) should read $(4 - a)C_A + [H^+] - [OH^-]$.

1973, page 2470, Table 1 (*c*) H(12A) *z/c* co-ordinate: *for* −618(120) *read* −382;
H(14) *y/b for* 3979(69) *read* 3879, *z/c for* 2708 *read* 2508.

page 2471, Table 3 (*c*)
(i) add C(2)–C(13)–C(14) 121·3(11)
(iii) C(9)–O(10)–C(11) angle: *for* 113·6(7) *read* 112·6(7).

page 2471, Table 4 add ' Signs of angles A•B•C•D to make AB eclipse CD '.

page 2471, Table 5 (a) K · · · K′ *for* 3·41(1) *read* 3·421(3), K•N *for* 2·88(1) *read* 2·887(9).
K•N′ *for* 2·87(1) *read* 2·852(10)
(b) N′•K•C(13*) *for* 73·93(23) *read* 79·87(26), N′•K•C(14*) *for* 62·06(32) *read* 71·87(34)
Values for K•N•C and K′•N•C should be interchanged.

page 2471, Table 6 (ii) Plane (4) should read $0{\cdot}770X + 0{\cdot}059Y - 0{\cdot}635Z = 3{\cdot}740$.
(v) Angle between normals to planes (1) and (4) *for* 4·7 *read* 8·2.

1974, page 219, Title. *For* Bromotriscarbonyl(phenyl isocyanide)manganese(I) *read* Bromotriscarbonylbis(phenyl isocyanide)manganese(I).

---

page 456, Title, 1st line of abstract and introduction. *For* μ-Diphenylacetylene-bis(tetracarbonylcobalt) *read* μ-Diphenylacetylene-bis(tricarbonylcobalt).

---

page 639, footnote to Table. *For* § $CHCl_3$ solution *read* § $CDCl_3$.

---

page 934, Authors' Names. *For* Carmine Collela *read* Carmine Colella.

---

page 2214, Table 2.

The assignment of the Fe^{2+} Mössbauer parameters in Table 2 are interchanged. According to refs. 16 and 17 the M1 site displays a larger quadrupole splitting (*ca.* 2·6 mm s^{-1}) than the M2 site (*ca.* 2·1 mm s^{-1}). The text and arguments developed are unaffected by the error in Table 2.

JOURNAL
OF
THE CHEMICAL SOCIETY

DALTON TRANSACTIONS
Inorganic Chemistry

Part I, pp. 1—1004

LONDON: THE CHEMICAL SOCIETY
1974

COPYRIGHT RESERVED

Printed in Great Britain by
Richard Clay (The Chaucer Press), Ltd.,
Bungay, Suffolk

JOURNAL
OF
THE CHEMICAL SOCIETY

DALTON TRANSACTIONS
Inorganic Chemistry

Part II, pp. 1005—1932

LONDON: THE CHEMICAL SOCIETY
1974

COPYRIGHT RESERVED

Printed in Great Britain by
Richard Clay (The Chaucer Press) Ltd.,
Bungay, Suffolk

JOURNAL
OF
THE CHEMICAL SOCIETY

DALTON TRANSACTIONS
Inorganic Chemistry

Part III, pp. 1933—2564
Notices to Authors and indexes

LONDON: THE CHEMICAL SOCIETY
1974

COPYRIGHT RESERVED

Printed in Great Britain by
Richard Clay (The Chaucer Press), Ltd.,
Bungay, Suffolk

PUBLICATIONS BOARD

Chairman

C. Kemball, M.A., Sc.D., F.R.I.C., M.R.I.A., F.R.S.E., F.R.S.

J. W. Barrett, C.B.E., Ph.D., F.R.I.C., C.Eng., F.I.Chem.E.
F. J. Bryant, Ph.D., A.R.C.S., D.I.C.
J. Chatt, D.Sc., M.A., F.R.S.
H. J. Cluley, Ph.D., M.Sc.
L. Crombie, D.Sc., F.R.I.C., F.R.S.
M. J. Frazer, Ph.D., B.Sc.
P. Gray, B.Sc., Ph.D., F.Inst.P.
Sir Harry Melville, K.C.B., Ph.D., D.Sc., F.R.I.C., F.R.S.
R. O. C. Norman, D.Sc., M.A., D.Phil.
W. G. Overend, Ph.D., D.Sc., F.R.I.C.
C. W. Rees, D.Sc., Ph.D., F.R.I.C.
E. C. Rhodes, Ph.D., B.Sc., F.R.I.C.
F. C. Tompkins, Ph.D., D.Sc., F.R.S.
T. I. Williams, B.Sc., M.A.
L. H. Williams, B.Sc., F.R.I.C.

Director of Publications

L. C. Cross, T.D., Ph.D., A.R.C.S., F.R.I.C.

PRIMARY JOURNALS COMMITTEE

Chairman

C. W. Rees, D.Sc., Ph.D., F.R.I.C.

P. Bladon, Ph.D., A.R.C.S., D.I.C.
H. J. Cluley, Ph.D., M.Sc.
D. I. Coomber, Ph.D., B.Sc., O.B.E.
J. Elks, D.Sc., D.I.C., A.R.C.S., F.R.I.C.
D. H. Everett, M.B.E., M.A., D.Phil., D.Sc.
F. Glockling, B.Sc., Ph.D., D.Sc.
A. R. Katritzky, D.Phil., Ph.D., Sc.D.
G. F. Kirkbright, D.Sc., Ph.D., B.Sc.
R. McWeeny, B.Sc., D.Phil., F.Inst.P.
W. D. Ollis, B.Sc., Ph.D., F.R.I.C.
J. H. Purnell, M.A., Ph.D., D.Sc.
B. L. Shaw, Ph.D., F.R.I.C.
G. A. Sim, B.Sc., Ph.D., F.R.I.C.
F. C. Tompkins, Ph.D., D.Sc., F.R.S.

Director of Publications

L. C. Cross, T.D., Ph.D., A.R.C.S., F.R.I.C.

Managing Editor: Primary Publications

E. R. Smith, Ph.D., A.R.I.C.

Editor: Journals

A. D. McNaught, M.A., Ph.D.

Is the 'crunch' really coming...

Chemistry and the needs of society

This timely volume brings together a wealth of hard fact and informed opinion on the state of many of the pressing problems facing society today – and tomorrow. The energy crisis; the threatened water shortage; the problems of feeding the growing numbers of our species; environmental pollution; "the quality of life" in several of its aspects; future economics of industrial innovation and new materials in place of old; education, training, and research in the Universities; all these topics are discussed by authorities in the respective fields. The underlying theme is the role of the chemist in creating, maintaining, and improving the conditions responsible for the high standard of living which we in the Western World take for granted.

Paperbound 262pp 8¼" X 6" 43 illustrations (5 in colour) £3.00 (CS Members £2.25)

Order from your local bookseller or direct from The Chemical Society, Blackhorse Road, Letchworth, Herts SG6 1HN enclosing the appropriate remittance.
(To obtain the privilege price CS members must order through the Letchworth address above).

The Chemical Society

Printed in Great Britain by Richard Clay (The Chaucer Press), Ltd., Bungay, Suffolk